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ABSTRACT

This report provides detailed information of a year-long study of programmatic and individual needs for adult vocational education in Connecticut. Chapter 1 outlines study objectives. Chapter 2 summarizes principal findings and conclusions and recommendations. Findings are categorized by seven factors studied: population, labor force participation, state economy, employment openings, availability of vocational programs, ancillary services, and barriers to adult participation. The detailed findings and statistical information are continued in chapter 3, the major chapter with 120 pages, 29 tables, 19 figures. Chapter 4 synthesizes findings into 14 recommendations for action, including (1) provision of additional training, mostly short-term, part-time, and responsive to specific hiring plans of employers; (2) provision of basic skills training; (3) planning to ensure adequately trained office workers, skilled industrial workers, and high-technology technicians; (4) additional vocational preparation of child care workers; (5) making minority groups, economically disadvantaged, women, and handicapped aware of educational and employment opportunities; and (6) provision of English as a second language courses and bilingual vocational programs. Chapter 5 describes the project design that concentrated on synthesis of data from many sources, including the 1980 census, a survey on barriers to participation, and six regional focus groups. Project materials and survey instrument are appended. (YLB)

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FINAL REPORT

RESEARCH STUDY TO ASSESS INDIVIDUAL AND VOCATIONAL PROGRAM NEEDS FOR ADULT EDUCATION

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Prepared for

CONNECTICUT STATE DEPARTMENT OF EDUCATION
DIVISION OF VOCATIONAL AND ADULT EDUCATION
BUREAU OF VOCATIONAL PROGRAM PLANNING AND DEVELOPMENT
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All opinions expressed reflect the views of the authors and are not necessarily those of the State Department of Education.

June, 1981

CE 030 127

PREFACE

This report presents the findings of a year long study by Associated Educational Consultants, Inc. for the State Department of Education, Division of Vocational Education, Bureau of Vocational Program Planning and Development. It represents a compilation and synthesis of data from many sources. The conclusions and recommendations offered here are just a small portion of what can be learned from this data. We hope that the State Department of Education Planners, CETA administrators, school superintendents and directors, and those responsible for educating the adult population at all levels will make use of this data. The report is dedicated to everyone who cares enough about the vocational needs of adults to read it and act on it.

ACKNOWLEDGEMENTS

This study of adult vocational education needs was conducted by Associated Educational Consultants, Inc., for the Connecticut Department of Education, Division of Vocational and Adult Education, Bureau of Vocational Program Planning and Development.

We are grateful for the information and assistance provided by many persons throughout Connecticut. We especially thank the more than 100 persons who attended the regional focus group meetings in November and December 1980. Our thanks must also go to those who responded to our survey of organizations and to those in the Labor Department, the Department of Education and elsewhere who answered our many requests for data.

Finally, we must acknowledge the important contributions of the study Task Force, with whom rests the responsibility for vocational education programming to meet the needs identified herein:

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ABSTRACT

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DESCRIPTION:

Final Report of a year long study of the programmatic and individual needs for vocational education of adults in Connecticut. The report synthesizes data from many sources (including the 1980 Census) and reports the results of a survey on barriers to participation and a series of six regional focus groups. Covered in detail are seven topics: population; labor force participation; the State economy; employment openings; availability of vocational programs; ancillary services; and barriers to adult participation. The report describes the implications of the findings and offers fourteen recommendations for action. (A companion volume from the project describes 32 model adult vocational education programs).

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CHAPTER I

INTRODUCTION

A. Rationale for the Study

The number of adults requiring or desiring vocational training has been steadily increasing over recent years. This population (over 16 years old and out of school) has different needs and motivations from the younger students. They experience different barriers to participating in vocational education, including scheduling, day care and financial problems.

This study was conceived to provide additional information on the vocational education requirements of the adult population in Connecticut. It was designed to define the adult population, the current and future occupational employment structure of the State, and the current availability and utilization of adult occupational training. A key feature of the project was learning more about the barriers to participation in training and the need for career information and support services, for various groups experiencing particularly severe employment problems (e.g., displaced homemakers, veterans, Hispanics). For the sake of efficiency - getting the most information at the least cost - the approach emphasized the secondary analysis of existing data maintained by other agencies of the State and Federal governments.

B. Study Objectives

The study had six objectives:

. Objective 1 - To compile, reanalyze and interpret all existing State and Federal statistics on vocational training for adults in Connecticut, on the populations eligible for or in need of such training, on their training needs and on the barriers to participating in such training, in a form deemed useful by those responsible for planning adult vocational programs within the Department of Education.

. Objective 2 - To provide such additional information as might be needed to understand the above-mentioned statistics and the need for basic employment skills training, career information, exploratory programs and support services, and to describe the adult vocational training services available in the State.

. Objective 3 - To provide examples of programs and innovative ideas which could realistically be used by vocational educators in the State of Connecticut to strengthen the basic skills aspect of employment training for adults, in a format which can be widely used by educators and administrators.

. Objective 4 - To identify and recommend realistic strategies to eliminate barriers that limit the access of adults to vocational programs in Connecticut.

. Objective 5 - To facilitate the transfer of information from this study into the planning process within the State Department of Education.

. Objective 6 - To provide recommendations for improvements in the provision of adult vocational education, including the elimination of barriers to participation.

Five of these objectives are addressed in this final report. The examples of programs and innovative ideas for adult vocational education mentioned in Objective 3 are provided in a separate volume for dissemination.

Much of the data provided in this report has been provided for individual labor markets and/or regions. The regions include two or three labor markets each and correspond roughly to the Regional Education Service Center areas.

CHAPTER II

SUMMARY

A. Principal Findings

1. Overview

This study reviewed seven areas affecting individual and program-level needs for adult vocational education. Those seven were: the composition of the State's population, and changes in it; trends in labor force participation; projections for the State's economy; future job openings for which adults might train; the availability of vocational programs for people with various needs and in different areas of the State; the status of ancillary services needed by adults to facilitate their participation in vocational training; and barriers to participation by various groups of adults. Secondary data sources and a survey regarding barriers provide the basis for the detailed findings and statistical information on these seven factors in the needs equation which may be found in Chapter III. This chapter provides a summary of the findings and presents a summary of conclusions and recommendations. These are followed by a brief self-evaluation of the project.

2. Population

The State of Connecticut, although one of the smallest in the nation, has the fourth highest population density and the 24th largest total population (by 1975 estimates). That population has grown slowly over the past decade; the 1980 population of the State was 3,107,576.

Nine out of ten Connecticut residents are White, but the White population has been declining. The Black population, which has been increasing, now constitutes 7% of the total. More than two-thirds of the State's Black

residents reside in and around New Haven, Bridgeport and Hartford. Cutting across all racial groups, the Hispanic-origin population (mostly Puerto Rican) is estimated at four to seven percent of the total and growing. More than half live in and around Hartford and Bridgeport, and another 11% located in the New Haven area.

Over the past decade, Connecticut's population has shifted away from the older cities (Hartford, New Britain, West Hartford, Bridgeport, New London, Norwich). The heaviest growth has been in the Danbury labor market area (which has moved from ninth place to fifth), the distant Hartford suburbs, and the south central part of the State. Projected growth for the 1980's shows that the fastest growth will be in the Danbury-Torrington-Waterbury and Middletown-New London-Norwich regions, but in absolute numbers, the Bristol-Hartford-New Britain area will exceed them both.

Quite significant, also, is the continuing shift to an older population. The under-15 group has been declining rapidly, and will continue to do so through about 1985, while the 15 to 19 year old group has peaked, and will drop markedly (by 25%) over the next ten years. Growth in the population through the 1980's will be restricted to the over-20 age group.

Other significant findings about the population are the changing role of women and the lack of a high school diploma for one-third of the adults. As of 1976, only 44% of the State's families included both a husband and a non-working wife. There were 331,000 working wives, 108,000 single-parent families headed by women, and 19,700 headed by men. Finally, as of 1976, nearly one-third of the adults (over 25 years) in the State had not completed high school, and 18% had never attended one.

3. Labor Force Participation

Labor force participation refers to the percentage of persons 16 years or older who are working or looking for work. During the early 1970's the participation rate for women increased (from 45.5 to 55.5), while the rate for men decreased (from 80.0 to 74.5); more recent figures are not available. While participation rates are higher for Black women than White, for men, the rates are approximately equal across racial groups. Nearly two Black women out of three are in the labor force. Participation rates vary by labor market across the State, and are especially high in the Stamford area.

Statewide, there has been a trend toward greater participation by youth. The rate for 16 and 17 year olds grew by 50% in just five years.

While the growing participation of women in the labor force is a most significant trend, the nature of their participation differs from that of their fathers and brothers. Many women work part-time or for short periods of time by choice.

Unemployment in the State has remained below the national average over the past few years. The Norwalk, Stamford and Willimantic areas are among the most fortunate, while unemployment is high in the [illegible]sonia and Danielson areas. Last December, 100,700 persons were unemployed in the State. Unemployment rates are higher for women than men, and much higher for Non-whites than Whites. They are highest of all for the State's youth.

4. The State Economy

Connecticut's economy is a healthy one, and prospects are brighter here than elsewhere in the nation. Connecticut is one of the most highly industrialized States in the country, with a highly diversified manufacturing sector employing 435,000 of its residents. National trends bolstering the State's position are the retooling of automotive plants to build smaller cars (Connecticut's machine tool industry is involved in this retooling), the continued good performance of the electronics, instruments and insurance industries, and the predicted increase in defense contracting. The local increased demand for office space and the relocation of corporate headquarters in Fairfield County to avoid New York State and City taxes also promote growth in the non-manufacturing sector.

Eastern Connecticut looks forward to continued growth in manufacturing jobs (many in defense) between now and 1985. The distribution of jobs is somewhat uneven, though, with about 49% of them in Groton; unemployment has been running high in the Danielson area.

Middletown is another labor market dependent on defense contracts and manufacturing. It has seen some recent downturns, but prospects are good for the next five years.

The New Haven area has seen relatively high employment. It is primarily a manufacturing economy, but is shifting in favor of non-manufacturing jobs.

Bridgeport has not been as fortunate, and increased employment is projected in the short term. Efforts are underway to diversify the area's industries.

The Stamford area is experiencing real growth in the non-manufacturing sector as it undergoes construction of new retail and office facilities. Unemployment has been declining here.

The Danbury area has been growing rapidly into a center for high-technology corporations and corporate headquarters. Prospects for the near future are very good here. In the Torrington area to the north, prospects are mixed, with new firms moving in at the same time that old ones have been experiencing lay-offs.

Waterbury and its labor market area have been growing, attracting high-technology industries while existing industries expand. The area economy is strong in all sectors.

The Hartford area has a diverse economic base, including manufacturing, retail sales, insurance, banking, and government. This diversity will help it through any economic decline.

5. Employment Openings

Labor Department projections of job openings are the best available source of information for forecasting employers' needs for trained personnel. However, because they are projections from trends, they are subject to error, especially in the areas of new and emerging occupations and response to external events (such as energy shortages, changes in the Federal government, etc.). These projections have been coupled with locally-provided information to attempt to predict the types of workers who will be needed in Connecticut through 1985.

The agricultural sector will continue to decline, and farm jobs will generally be few in number. Most will continue to be seasonal in nature. Related opportunities in such fields as landscaping, nursery sales, and pet sales, will continue to be open to graduates of agricultural programs, but these programs have a lower than average rate of placements in training-related occupations.

The percentage of the work force employed in non-manufacturing jobs will continue to grow, although the absolute number of manufacturing jobs will also grow slightly. The growth in manufacturing will be entirely in the area of metal products. The greatest number of job openings in all parts of the State will be found in the following five categories:

- Other clerical workers (e.g., bookkeepers, cashiers, file clerks, telephone operators, and miscellaneous clerical workers) - for many of these positions, only a high school diploma is required, and on-the-job training is provided. However, properly trained clerical workers, typists, and secretaries are in great demand in the State, while there is a surplus of inadequately trained individuals in several occupational groups.

- Operatives, except transporation (e.g., checkers, welders, assemblers, sewers and stitchers, gas station attendants, drill press operators) - although many of these occupations can be learned on the job and do not require high school graduation, vocational training and a diploma can be helpful; apprenticeship or on-the-job training may be required for some of these occupations. The need for employees in these jobs varies by labor market, so that there may be an oversupply in one part of the State, while employers in another region need help immediately. Further detail is provided in Chapter III.

- Other managers, officials and proprietors other than buyers, (e.g., restaurant managers, office managers, building superintendent, funeral directors) - these jobs may require an internship and/or licensing, or experience in related positions; in most cases, no special management training is required.

- Stenographers, typists, secretaries, - high school graduation, good spelling, punctuation and grammar are basic requirements; special training and/or certification are required for many types of positions. While vocational and other schools are graduating many students from typing courses, employers across the State find good secretaries and typists in short supply. Language skills and familiarity with new office technology are two critical areas of training needs.

- Sales workers (e.g., insurance agents and brokers, real estate agents, telephone solicitors, sales clerks)- high school or college graduation and/or licensing may be required; informal training by experienced personnel are common. The needs vary by type of sales worker, with insurance and real estate agents in greatest demand.

Also of great importance to the State's economy is the need for skilled metalworkers and for technicians for the new high-technology industries locating in the State.

6. Availability of Vocational Programs

Chapter III provides an inventory of vocational programs by region of the State. What is most clear from this inventory is that training opportunities are concentrated along a corridor which extends from Stamford to Hartford. Those in the eastern and western portions of the State must travel further to partake of vocational training and find a less extensive range of programs available to them. This is particularly serious for the New London and Danbury areas, where population growth and expanding employment opportunities call for increased training availability.

Many of the adults seeking vocational training are currently employed or have family responsibilities which make it quite difficult for them to travel far to training or to partake of full day programs. Adults

also seek training with immediate employment objectives in mind. These two facts make one of Connecticut's programs a model for expanding services in underserved areas - the industry-sponsored training in which small groups are trained rapidly by the State Department of Vocational and Adult Education for a single employer, to specific employment demands, in a school or at the job site. The addition of a pre-training unit for non-traditional students (i.e., women) has made these programs a model for increasing the number of women trained for metalworking trades.

This is particularly important in light of the Regional Vocational Technical Schools inability to attract the many women (1,000+) who apply each year, unsuccessfully, for practical nursing programs into other occupational areas.

7. Ancillary Services

Adults need a different set of services than younger students do to support their entry into vocational training and their successful completion of that training. Among those services which are needed by a large number of students but inadequately supplied, day care stands out as most significant. Adequate and affordable child care arrangements are important to the participation of many men and women with families, yet there is an inadequate supply of day care slots Statewide. Other such services are Adult Basic Education (for the third of Connecticut adults who have not completed high school), and English-as-a-Second Language training for Hispanics and other immigrants to the State.

While counseling services are available throughout the State for those who need help in identifying their career goals, selecting schools and programs, finding employment, and solving personal problems, the situation is not ideal. There is inadequate counseling for some students with special needs (particularly those who have been stereotyped with respect to career options). There is also such fragmentation of services (vocational training and ancillary services) that few counselors can stay fully informed about opportunities in the State. Two recent efforts at the State level have begun to relieve lack of information, if not the lack of coordination of services. The first is the Education and Employment Hotline, which is a Statewide telephone referral service. The second is the development by COICC of a computerized employment and education information system which should become available to counselors in all parts of the State.

8. Barriers to Adult Participation

The barriers which individuals face in seeking vocational education and succeeding in it are many. Although they vary for different categories of people, most are hit by the cost of education (which includes tuition and lost income for many adults), the inadequate availability and the cost of child care, a lack of exposure to information about educational and career opportunities, and insufficient academic preparation (basic skills). For women, mentally handicapped individuals, and Hispanics, social and family expectations are a significant barrier. For the physically handicapped, the lack of training (not necessarily facilities) which is adapted to their individual limitations, is a serious problem. A need for counseling

with personal problems is an additional handicap for veterans in the State. Perceived age, race or sex discrimination was not seen by survey respondents as one of the most serious barriers for any group, but the lack of bilingual vocational training was rated serious for many groups because of the number of limited English speaking persons in the State. Almost all of the above-listed barriers affected Black adults and the economically disadvantaged.

B. Conclusions and Recommendations

Vocational education is important to the State's economy and must change with the shifts in population, industries, and employment openings. The supply of training is insufficient for the Danbury, New London, and Danielson-Willimantic areas especially. More and better training is needed especially for metalworking, secretarial/clerical, and high-technology occupations. Training must be linked to employer needs to be of benefit to the adult student and the economy. One-third of the adult population lacks the basic skills necessary to fully benefit from vocational education, and a large number of the State's residents lack the English-language skills or the physical capacity to profit from regular vocational classes. The distribution of ages in the population is still shifting toward older persons and the 15 to 19 year old group has peaked and will decline rapidly, and priorities should shift with demography. Women are entering the work force in ever-greater numbers, and many need to be trained for positions which pay enough to support a family. There are still many unalleviated barriers to participation in vocational education by Black, economically disadvantaged, Hispanic, female, and handicapped adults, by veterans, youths, and displaced homemakers. Among

the most severe are the availability and cost of day care, the ability to afford vocational education, and the lack of information on careers and training.

The following recommendations are offered in Chapter IV of this report:

Recommendation 1. Additional training should be provided in secondary schools, workplaces, and other convenient locations within the Danbury, New London, and Danielson-Willimantic areas; such training should be mostly short-term, part-time, and in response to specific hiring plans of local employers.

Recommendation 2. The limited resources for adult vocational education should be gradually shifted from youth training projects to the training of adults over the age of 21, following the projected decrease in youth employment problems.

Recommendation 3. Priority should be given to the proposed objective for the 1981 Revision to the Master Plan for Vocational, Career and Adult Education, directing "the Division of Vocational and Adult Education and local educational agencies to assume '...primary responsibility for providing a basic education to individuals who do not have a high school diploma or equivalent, and provision of funding in proportion to the need'," as originally recommended by the Education Planning Committee in 1980.

Recommendation 4. The Division of Vocational and Adult Education should foster and promote efforts to coordinate adult basic education, GED classes, and vocational training in public institutions, so that adults may make progress toward their vocational goals while enrolled in other education classes.

Recommendation 5. Secretarial and clerical training curricula (for pre-employment and upgrading programs) should be reviewed with representatives of employers in all parts of the State to insure that all desired skills and attitudes are being taught and to update them with regard to technological advances.

Recommendation 6. Program models should be developed and tested for using industrial and office facilities during off-hours for keeping vocational educators and students aware of the rapidly changing technology in many occupations.

Recommendation 7. The industry-sponsored training program should be expanded for training and upgrading of high-technology technicians and metalworking occupations.

Recommendation 8. Implement the proposed Master Plan objective calling for cooperation of the State Board of Education with "the Department of Labor, the Office of Policy and Management, the Department of Human Resources, the Department of Income Maintenance, and the Board of Higher Education to promote and coordinate supportive services such as child care and transportation in connection with a variety of vocational and employment training programs."

Recommendation 9. Design and implement a campaign to inform potential students from underrepresented racial, ethnic, gender, socioeconomic, and handicapped groups about the availability of State-supported training, using media and formats which will reach specific target populations.

Recommendation 10. Continue the implementation of the COICC computerized Career Information Delivery System in settings which can benefit those who are most affected by occupational stereotyping (e.g., displaced homemaker programs, community based organizations in minority communities, YMCA/YWCA's).

Recommendation 11. Develop, identify, and disseminate models of pre-vocational training for students not traditionally represented in particular vocational programs, to facilitate their entry into such programs on an equal footing with traditional students.

Recommendation 12. Promote the provision of English-as-a-second-language courses by local educational agencies and identify model programs linking such training to vocational or pre-vocational training.

Recommendation 13. Provide bilingual vocational programs in areas where persons of limited English proficiency are concentrated.

Recommendation 14. Offer vocational training in short, self-contained instructional units scheduled so that participants can hold a job while they attend, and provide assistance in obtaining temporary employment for adult students.

C. Further Research

Research which is especially needed would collect information from employers on the specific educational requirements for new employees. While we have some data on employment projections, there is not much available which speaks to the expectations of employers for the specific skills which employees will bring to jobs. Such research should be done for specific occupational categories skilled, trade and secretarial and clerical positions, which are both highly needed in the State. Other data which would be best collected locally includes surveys of adults in the community regarding both their interest in and desire for vocational education, the extent to which information on careers and educational opportunities is available to them and known by them and their preferences for the format, time, location, and subject of vocational programs in the area. A model for this could be the Needs Assessment done recently by Mohegan Community College. Finally, more research is needed in the field of Adult Education in general. This is a national level effort, but more needs to be known about how adults learn and how that learning can best be facilitated.

CHAPTER III

DETAILED FINDINGS AND IMPLICATIONS

A. Population

1. Connecticut's Residents

The State of Connecticut, only 50 miles wide and 100 miles long, has the fourth highest population density in the United States (1975 est.). It ranks 48th in land area and 24th in total population (1975 est.). Connecticut's population in 1980 was 3,107,576,* about 3.3% less than was estimated, but 2.5% greater than in 1970.

The population is concentrated in the central and western portions of the State (see Table 3.1). Blacks comprise 7.0% of the total population, but tend to be located in and around New Haven, Bridgeport, and Hartford. More than two-thirds of Connecticut's Black residents live in these three labor market areas, compared to 48% of the general population. The State's 4,533 American Indians (including Eskimos and Aleuts) and 18,970 Asians and Pacific Islanders, who account for less than 1% of the total population, are scattered across the State. Another 2.2% of the population is classified as "Other races." The remainder, 90.1%, are White.

Only the White population has declined since 1970, and the size of that decline is confounded by the reclassification in the 1980 census of those identifying themselves as Cuban, Puerto Rican, Mexican, etc.; these groups are now considered to be "Other races," where they were formerly counted as Whites. The Black population grew by 19.8%, but undercounting

*U.S. Census count, subject to the outcome of outstanding law suits seeking adjustments.

TABLE 3.1

1980 CONNECTICUT POPULATION BY RACE, REGION AND LABOR MARKET

LABOR MARKET	TOTAL	RACE				
		White	Black	Am.Ind. *	Asian **	Other
Region I	492,310	464,125	18,445	684	2,317	6,739
Danbury	179,026	171,507	4,408	240	1,264	1,607
Torrington	80,634	79,375	709	92	283	175
Waterbury	232,650	213,243	13,328	352	770	4,957
Region II	721,001	632,928	62,810	764	5,201	19,298
Bridgeport	295,455	343,541	34,848	537	1,995	14,534
Norwalk	126,692	112,267	11,244	119	1,016	2,046
Stamford	198,854	177,120	16,718	108	2,190	2,718
Region III	513,817	446,745	53,607	782	3,221	9,462
Ansonia	39,107	37,289	1,555	66	92	105
Meriden	57,118	52,847	1,919	152	148	2,052
New Haven	417,592	356,609	50,133	564	2,981	7,305
Region IV	918,486	817,195	67,801	1,057	5,059	27,374
Bristol	73,762	71,949	1,038	115	190	470
Hartford	702,483	611,500	61,859	796	4,364	23,964
New Britain	142,241	133,746	4,904	146	505	2,940
Region V	118,254	114,780	1,269	282	582	1,341
Danielson	63,842	63,107	229	169	149	188
Willimantic	54,412	51,673	1,040	113	433	1,153
Region VI	343,708	323,647	13,501	964	2,590	3,006
Middletown	117,822	111,710	4,742	175	478	717
New London	162,562	151,217	7,286	539	1,813	1,707
Norwich	63,324	60,720	1,473	250	299	582
Entire State	3,107,576	2,799,420	217,433	4,533	18,970	67,220
	100.0%	90.1%	7.0%	0.1%	0.6%	2.2%

*Includes all those identifying themselves as American Indian, Eskimo, Aleut or a member of any Indian tribe.

**"Asian and Pacific Islanders"
Includes all persons identifying themselves as Japanese, Chinese, Filipino, Korean, Asian Indian, Vietnamese, Hawaiian, Guamanian, or Samoan (including "Japanese American," etc.).

***Includes Asian and Pacific Islander groups not identified separately (e.g., Cambodian, Indochinese, Pakistani, Indonesian, Fiji Islander) and other races not already listed; th identifying themselves as Cuban, Puerto Rican, Mexican, etc. are included here this year.

Source: Bureau of the Census, U.S. Department of Commerce. Connecticut Final Population and Housing Unit Counts (PHC80-V-8). Washington, D.C.: Bureau of the Census, March 1981.

in the 1970 Census may have inflated this figure.

Table 3.2 provides two sets of estimates of the Hispanic population in the State, which has been growing rapidly. This group is defined not as a race, but as all persons of Mexican, Puerto Rican, Cuban, or other Spanish/Hispanic origin or descent, regardless of race. The 1980 Census counted 124,499 such individuals, but undercounting of this group has always been a problem. The 1976 Census of Income and Education estimated that there were then 81,000 persons of Spanish origin in the State. Connecticut agencies serving the Spanish Speaking estimate about 212,800 Hispanic persons currently in the State. By Census estimates, more than half live in the Bridgeport and Hartford labor markets. Another 11% live in the New Haven area. Estimates made by the Spanish Speaking agencies suggest that 84% of the overall Hispanic population is Puerto Rican, 4% Cuban, and 12% Other, with the distribution varying by region.

2. Population Growth Since 1970

Overall, the State's population expanded slightly (2.5%) during the past decade. Within the State, however, there were significant changes. The population shifted away from the older cities, with Hartford and New Britain losing more than 10% of their 1970 residents and West Hartford, Bridgeport, New London, and Norwich all losing about 9% or more (see Table 3.3). Southington, Danbury, Shelton, and tens of smaller towns saw gains in excess of 15%. The Danbury labor market area, the distant Hartford suburbs, and the south central part of the State were the areas of strongest growth (see map, Figure 3.1).

As seen in Table 3.4, the State's estimates of the population in 1980 were slightly inflated, yet the full extent of the influx into the

TABLE 3.2

ESTIMATES OF THE HISPANIC POPULATION
BY REGION AND LABOR MARKET

LABOR MARKET	1980 CENSUS*	DEPARTMENT OF COMMUNITY AFFAIRS**			
	SPANISH ORIGIN	TOTAL	PUERTO RICAN	CUBAN	OTHER
Region I	12,034	18,500	91%	-	9%
Danbury	3,370	5,500			
Torrington	507	600			
Waterbury	8,157	12,400			
Region II	43,055	79,200	81%	5%	14%
Bridgeport	30,510	51,700			
Norwalk	5,133	14,900			
Stamford	7,412	12,600			
Region III	18,575	37,500	79%	5%	16%
Ansonia	382	5,100			
Meriden	4,698	10,500			
New Haven	13,495	21,900			
Region IV	42,249	57,900	89%	2%	9%
Bristol	1,102	2,900			
Hartford	34,078	42,900			
New Britain	7,069	12,100			
Region V	2,427	5,600	92%	1%	8%
Danielson	450	600			
Willimantic	1,977	5,000			
Region VI	6,159	14,100	82%	1%	16%
Middletown	1,592	5,600			
New London	3,796	5,600			
Norwich	771	2,900			
Entire State	124,499	212,800	84%	5%	12%

*Includes those identifying themselves as being of Mexican, Puerto Rican, Cuban or other Spanish/Hispanic origin or descent on the 1980 Census. Preliminary counts.

**Estimates of the Hispanic population gathered by the Hispanic Services Division of the Dept. of Community Affairs, based on statistics provided by the Statewide Spanish Speaking Agencies.

Sources: Bureau of the Census, U. S. Dept. of Commerce. Connecticut Final Population and Housing Unit Counts (PHC80-V-81). Washington, D.C.: Bureau of the Census, March 1981.

Ronald Vazquez. Current Hispanic Population. Hartford: Connecticut Dept. of Human Resources, November 1978 (1 page, typewritten).

TABLE 3.3

TOWNS EXPERIENCING THE GREATEST CHANGES
IN POPULATION BETWEEN 1970 and 1980
(includes only those with more than 25,000 residents)

Towns	Change from 1970 to 1980
The Gainers:	
Southington	up 19.2%
Danbury	up 19.1%
Shelton	up 15.3%
Naugatuck	up 14.9%
The Losers:	
Hartford	down 13.7%
New Britain	down 11.5%
West Hartford	down 9.9%
Bridgeport	down 8.9%
New London	down 8.8%
Norwich	down 8.8%

Source: Bureau of the Census, U.S. Department of Commerce. Connecticut Final Population and Housing Unit Counts (PHC80-V-8). Washington, D.C.: Bureau of the Census, March 1981.

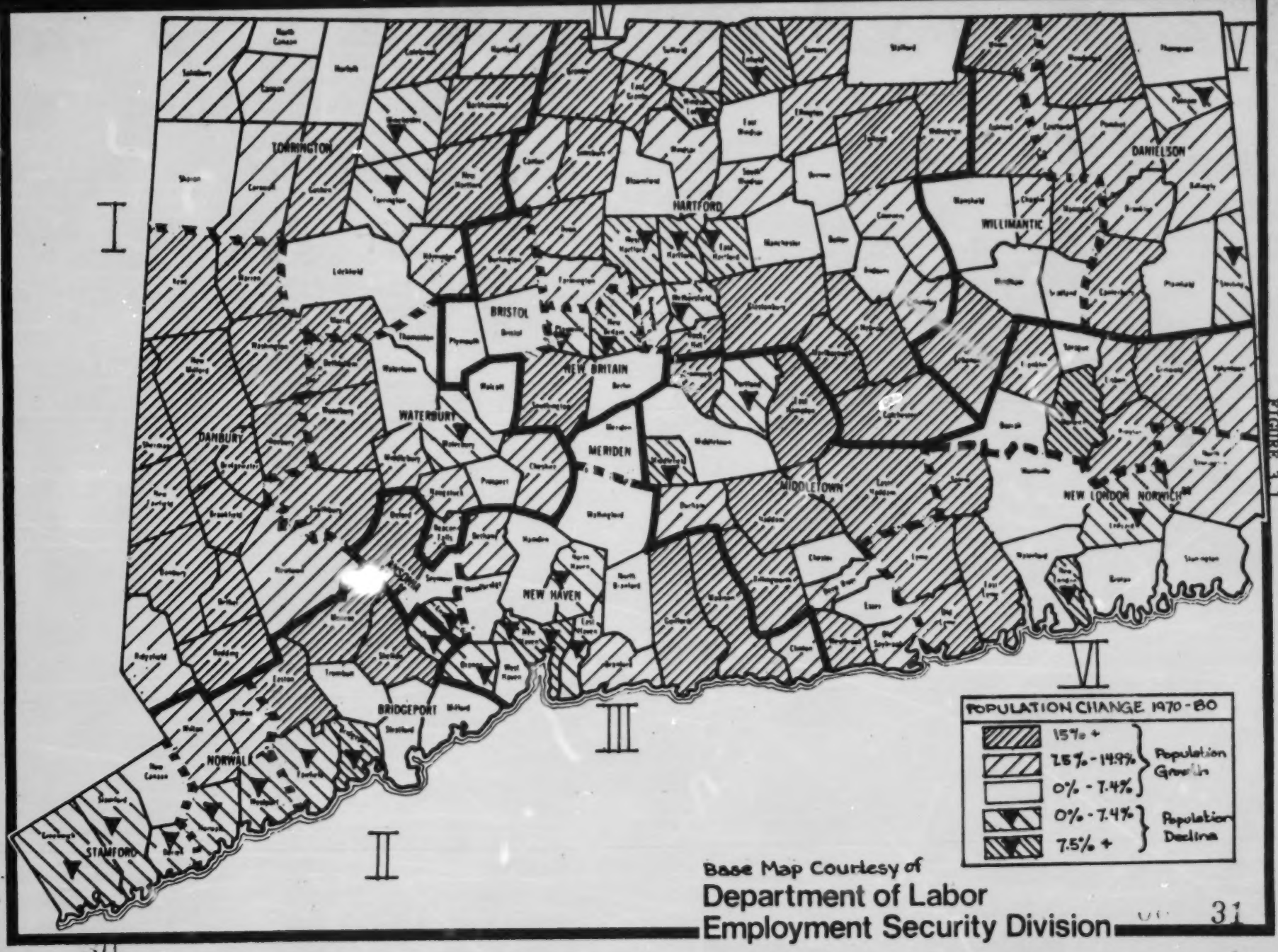

TORRINGTON
HARTFORD
DANIELSON
WILLIMANTIC
BRISTOL
NEW BRITAIN
WATERBURY
DANBURY
MERIDEN
MIDDLETOWN
NEW LONDON
NORWICH
NEW HAVEN
BRIDGEPORT
NORWALK
STAMFORD
I
II
III
V
VI
POPULATION CHANGE 1970-80
15% +
7.5% - 14.9%
0% - 7.4%
0% - 7.4%
7.5% +
Population Growth
Population Decline
Base Map Courtesy of
Department of Labor
Employment Security Division

FIGURE 3.1

TABLE 3.4

POPULATION PROJECTIONS BY REGION AND LABOR MARKET

LABOR MARKET	ACTUAL		PROJECTED		
	1970	1980	1980*	1985	1990
Region I	441,753	492,310	496,730	511,020	526,820
Danbury	143,638	179,026	173,130	182,300	191,160
Torrington	77,775	80,634	82,770	84,140	85,660
Waterbury	220,340	232,650	240,830	244,580	250,000
Region II	735,687	721,001	766,950	779,750	789,810
Bridgeport	401,752	395,455	413,110	420,020	425,070
Norwalk	127,595	126,692	137,970	141,460	143,750
Stamford	206,340	198,854	215,870	218,270	220,990
Region III	505,662	513,817	523,520	529,360	538,630
Ansonia	38,416	39,107	41,070	42,570	44,250
Meriden	55,959	57,118	57,350	57,900	58,250
New Haven	411,287	417,592	425,100	428,890	436,130
Region IV	915,361	918,486	960,990	986,490	1,014,130
Bristol	69,878	73,762	75,310	77,470	79,130
Hartford	700,214	702,483	735,300	756,640	780,810
New Britain	145,269	142,241	150,380	152,380	154,190
Region V	108,756	118,254	123,380	126,630	130,510
Danielson	58,961	63,842	67,530	70,010	72,670
Willimantic	49,795	54,412	55,850	56,620	57,840
Region VI	324,998	343,708	357,940	368,260	380,200
Middletown	104,751	117,822	120,300	125,540	130,950
New London	156,588	162,562	167,130	170,920	175,990
Norwich	63,659	63,324	70,510	71,800	73,260
Entire State	3,032,217	3,107,576	3,229,510	3,301,510	3,380,100

*1980 projections (made just prior to the 1980 Census) are provided as a check on the accuracy of the more distant estimates.

Sources: Office of Policy and Management, Comprehensive Planning Division (in consultation with Connecticut Regional Planning Organizations and Municipalities and the State Department of Health Services, Division of Health Statistics). State of Connecticut Population Projections for Connecticut Munitipalities and Regions to the Year 2000. Hartford: OPM, February 1980.

Bureau of the Census, U. S. Department of Commerce. Connecticut Final Population and Housing Unit Counts (PHC80-V-8). Washington, D.C.: Bureau of the Census, March 1981.

Danbury area was underestimated. It has outflanked the New London and New Britain areas, and is approaching the size of the Stamford area. The Office of Policy and Management estimates also failed to see the decline in the Bridgeport-Norwalk-Stamford area's population. Nearly 14,700 people (2%) left that area in the past decade.

3. Projected Growth Through 1990

Table 3.4 also provides the official OPM estimates for population changes over the next ten years. While based on 1980 estimates which, as we have seen, were slightly high, these projections can still be used for planning purposes if some caution is exercised.

Continued growth is forecast for all areas of the State (see Table 3.5). The ten-year growth rate of 4.7% (compared to the projected 6.0% growth for the 1970's and the actual growth rate of 2.5%) may be optimistic, but it is a useful guide. It indicates that Connecticut should not expect to see any remarkable growth in the next decade, but should plan for something close to a stable population (and possibly a slight decline).

The greatest growth areas should be at opposite ends of the state, in the Danbury-Torrington-Waterbury region and the Middletown-New London-Norwich region. And, while the growth rate will be slower, the total number of additional persons in the Bristol-Hartford-New Britain region will exceed the total number of new residents in the two fastest-growing regions.

4. An Aging Population

More significant than the growth in the total population will be the great increases in the adult population. As Figure 3.2 depicts, the number of children in the State will continue to decline through 1985,

TABLE 3.5

PROJECTED POPULATION GROWTH BY REGION

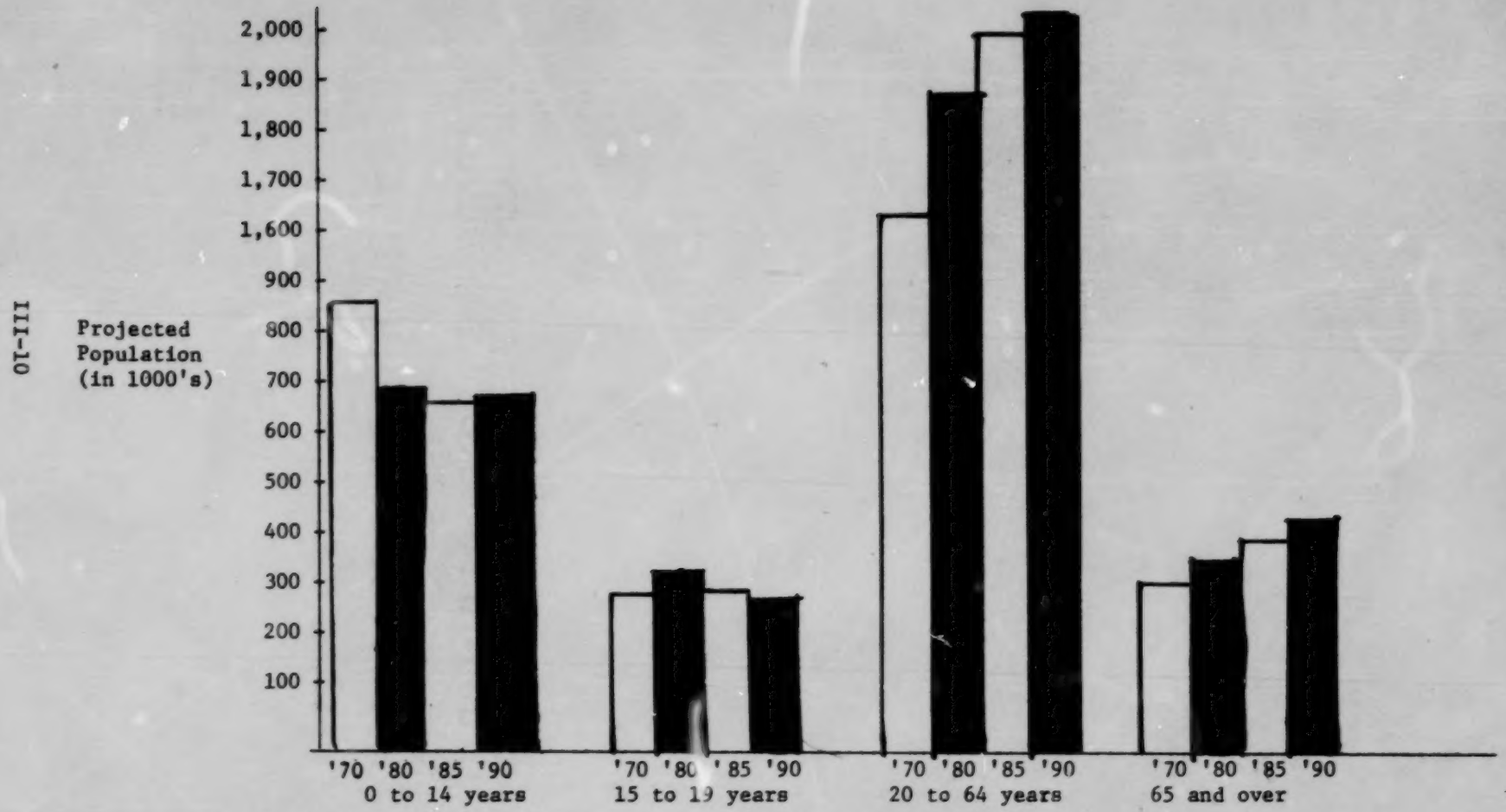
REGION	ACTUAL	OPM PROJECTIONS	
	1970-1980	1970-1980	1980-1990
Region I	50,557	54,977	30,090
(Northwest)	(11.4%)	(12.4%)	(6.1%)
Region II	-14,686	31,263	22,860
(Southwest)	(-2.0%)	(4.2%)	(3.0%)
Region III	8,150	17,858	15,110
(South Central)	(1.6%)	(3.5%)	(2.9%)
Region IV	3,125	45,629	53,140
(North Central)	(0.3%)	(5.0%)	(5.5%)
Region V	9,498	14,624	7,130
(Northeast)	(8.7%)	(13.4%)	(5.8%)
Region VI	18,710	32,942	22,260
(Southeast)	(5.8%)	(10.1%)	(6.2%)
Entire State	75,359	197,293	150,590
	(2.5%)	(6.5%)	(4.7%)

Sources: Office of Policy and Management, Comprehensive Planning Division (in consultation with Connecticut Regional Planning Organizations and Municipalities and the State Department of Health Services, Division of Health Statistics). State of Connecticut Population Projections for Connecticut Municipalities and Regions to the Year 2000. Hartford: OPM, February 1980.

Bureau of the Census, U.S. Department of Commerce. Connecticut Final Population and Housing Unit Counts (PHC80-V-8). Washington, D.C.: Bureau of the Census, March 1981.

FIGURE 3.2

POPULATION CHANGES BY AGE GROUP 1970-1990



Source: Connecticut State Department of Health. Revised Preliminary Population Projections, Connecticut 1970-2000 by County. Hartford: State Department of Health, 1979.

III-10

when it is expected that the number of children will be 24% less than in 1970, then start to rise again, very slowly. The 15 to 19 year old group is believed to have peaked around 1980, and should decline markedly through 1990. By 1985, this group (which currently experiences a very high unemployment rate) will have dropped back below the 1970 mark. Between 1980 and 1990, a 25% drop is expected.

The real growth should occur in the 20 to 64 year old group, which comprises the bulk of the work force. This group, estimated to have increased by 16% in the last ten years, should grow by 9% through the 1980's. The over-65 population grew even more dramatically over the past ten years, by 21%, and should grow by another 17% in the next ten. These two groups are the ones which must be served by adult vocational education programs.

5. The Changing Role of Women in the Family

An estimated 91.5% of Connecticut residents in 1976 lived in families (i.e., with relatives).* Only 54.1% of those families included children. As Table 3.6 shows, only 44% of those families were traditional husband-wife families with non-working wives. Nearly half of all wives living with their husbands (331,000 women) were in the paid labor force, and another 108,000 women headed single-parent families. Only 19,700 single-parent families were headed by men.

The family structure has economic implications. Where husband and wife both worked, the median income in 1975 was $19,350. Where the wife did not work, the median was $15,496. Male family heads with no spouse present earned a median income of $13,724, but women in the same position earned only $7,886. Of all persons in families headed by women, 31% were below

*1976 Survey of Income and Education data (U.S. Census).

TABLE 3.6

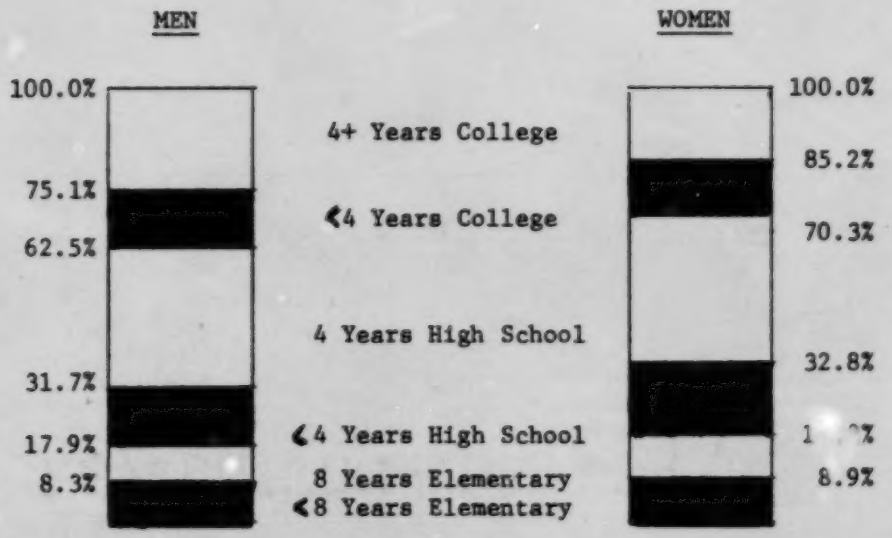
CONNECTICUT FAMILY STRUCTURE AND INCOME, 1975

	PERCENT OF ALL FAMILIES	MEDIAN INCOME 1975 (STD. ERROR)
Husband-wife families	84.5%	$17,544 (210)
Wife in paid labor force	40.4%	19,350 (260)
Wife not in paid labor force	44.0%	15,496 (226)
Male head, no wife present	2.4%	13,724 (639)
Female head, no husband present	13.2%	7,886 (386)
White head	93.2%	$16,740 (211)
Black head	6.5%	8,809 (431)
Spanish origin head	2.4%	8,462 (1,265)

Source: Bureau of the Census, U. S. Dept. of Commerce. Spring 1976 Survey of Income and Education (Current Population Reports, Series P-60, Number 110). Washington, D.C.: Bureau of the Census, 1977.

FIGURE 3.3

EDUCATIONAL ATTAINMENT OF PERSONS 25 YEARS AND OVER IN CONNECTICUT, 1976



Source: Bureau of the Census, U. S. Dept. of Commerce. Spring 1976 Survey of Income and Education (Current Population Reports, Series P-60, Number 110). Washington, D.C.: Bureau of the Census, 1977.

the poverty level in 1975, including 47% of their children less than 18 years old.

6. Educational Attainment

Figure 3.3 depicts the educational attainment of adults (over 25 years) in Connecticut in 1976. Nearly one-third of all men and women in the State had not completed high school, and 18% had never attended high school. These facts are often obscured by the State's large number of college graduates - one-fourth of all men and 15% of the women have completed four years or more of college.

7. Implications for Adult Vocational Education

The preceding has been a fairly detailed analysis of the State's demographics and population trends. Some of the most significant findings to emerge from this analysis are these:

- The working-age adult population and the over-65 group are growing and will continue to grow much faster than the overall population.
- One third of Connecticut's adults have not completed high school.
- The hard-pressed youth age group (15 to 19 years) has peaked and should return to pre-1970 levels by 1985.
- The Hispanic population is growing and now comprises 4 to 7% of the State's population, making it comparable in size to the Black population.
- The traditional family unit with a husband and a non-working wife describes only 44% of Connecticut's families today.
- While the working wife can contribute significantly to her family's income if she lives with her husband, on her own as a single parent she is not doing well at all, and nearly half of all children in such households are living below the poverty level.
- The Danbury area has grown significantly in the last ten years and will continue to grow, while the Bridgeport-Norwalk-Stamford area and the older cities are losing people.
- Overall population growth will be slow in the next ten years, although parts of the State will experience a faster rate of change.

The implications of these demographic changes become clearer when they are juxtaposed with changes in job opportunities, labor force participation, and vocational education supply in later chapters. However, some implications are clear even without considering those factors. For instance, it is clear that adult vocational education must be tied to basic skills training when one-third of the adult population lacks a high school diploma. Also, vocational education programming must be adapted to the increasing Black and Hispanic populations, the shift in population from the older cities to newer areas like Danbury, and the growing need for women with families to work and to increase their earnings. Finally, as the "baby boom" moves into adulthood, vocational educators must shift their focus from youth unemployment and competition for jobs to competition among the burgeoning adult population for work in a tight economy.

B. LABOR FORCE PARTICIPATION

1. General Trends

On average, the percentage of the population working or looking for work, as well as the total population, has increased over the last decade across the State. This increase has been the result of more women entering the labor force; the participation rate among men has declined. Table 3.7 shows participation rates by sex and race for 1970 and 1981 (actually 1975 rates by race/sex/age, applied to projected 1981 population distributions). The greatest increase in labor force participation, among females, is indicative of a significant trend which has continued since 1975. Women have continued to reenter the work force, and to remain in it longer, for economic and personal reasons. An estimated 55% of Connecticut's women are in the labor force, including nearly two out of every three Black women over the age of 16. These estimates are probably low, due to the use of 1975 rates.

TABLE 3.7

LABOR FORCE PARTICIPATION RATE BY
RACE AND SEX - CONNECTICUT, 1970 and 1981*

	1970	1981
TOTAL	61.8	64.1
Males	80.0	74.5
White	80.2	74.5
Black	77.2	74.9
Other**	78.5	73.9
Females	45.5	55.0
White	45.0	54.1
Black	55.5	65.6
Other**	47.8	54.9

*Source: Office of Research and Information, Employment Security Division, Connecticut Labor Department. Connecticut Annual Planning Information Fiscal Year 1981. Hartford: Connecticut Labor Department, July 1980.

Note: Based on projected 1981 population age 16 years and older and 1975 participation rates by race/sex/age.

**Rates based on small population sizes.

While women were entering the work force, men were leaving it, and participation rates dropped from 80.0% to 74.5%. Rates for 1981 are approximately equal for all racial groups.

Tables 3.8 through 3.12 depict labor force participation rates by labor market area for the Bridgeport, Hartford, New Haven, Stamford, and Waterbury areas, with Hartford and Stamford showing the highest rates.

As Table 3.8 shows, labor force participation in the Bridgeport area is below average for all groups in 1981, although approximately at the State average levels in 1970. In the Hartford area (Table 3.9), participation rates for all groups remain higher than average by about three to five percentage points. Participation was just slightly below average in the New Haven Area (Table 3.10) in both 1970 and 1981, yet in the Stamford area (Table 3.11), rates are quite high. Work force participation by men is up from 82.7% in 1970 (2.7 points higher than the Statewide average) to 87.3% in 1981 (12.8 points above average), with 90.2% of all Black males in the labor force. For women, the participation rate in the Stamford area has grown from sub-average (43.0%) to above-average (60.1%), and 79.8% of all Black women participate in the work force in 1981. Participation rates in the Waterbury area (Table 3.12) are below average in 1981 for men and White women and approximately average for non-White women.

Statewide, there has been a trend toward greater participation by youth.* Participation by 16 and 17 year olds grew between 1970 and 1981 by 50% to a rate of 69.1%. Rates also climbed for 18 to 44 year olds; maximum participation is seen in the 35 to 44 year old group (77.8%).

*Office of Research and Information. Op cit.

TABLE 3.8

LABOR FORCE PARTICIPATION RATE
BY RACE AND SEX - BRIDGEPORT LABOR
MARKET AREA, 1970 and 1981*

	1970 %	1981 %
TOTAL	61.8	60.8
Males	80.4	71.3
White	80.5	71.1
Black	79.5	73.8
Other**	76.2	69.8
Females	45.1	51.6
White	44.7	50.9
Black	50.8	58.6
Other**	36.5	42.5

*Source: Office of Research and Information, Employment Security Division, Connecticut Labor Department. Annual Planning Information Fiscal Year 1981: Bridgeport. Hartford: Connecticut Labor Department, July 1980.

Note: Based on projected 1981 population age 16 years and older and 1975 participation rates by race/sex/age.

**Rates based on small population sizes.

TABLE 3.9

LABOR FORCE PARTICIPATION RATE
BY RACE AND SEX - HARTFORD LABOR
MARKET AREA, 1970 and 1981*

	1970 %	1981 %
TOTAL	63.8	68.3
Males	81.4	77.6
White	81.7	77.8
Black	76.5	76.4
Other**	83.1	75.5
Females	48.1	60.2
White	47.5	59.2
Black	56.2	69.4
Other**	63.9	63.9

*Source: Office of Research and Information, Employment Security Division, Connecticut Labor Department. Annual Planning Information Fiscal Year 1981. Hartford: Connecticut Labor Department, July 1980.

Note: Based on projected 1981 population age 16 years and older and 1975 participation rates by race/sex/age.

**Rates based on small population sizes.

TABLE 3.10

LABOR FORCE PARTICIPATION RATE BY RACE AND SEX - NEW HAVEN LABOR MARKET AREA, 1970 and 1981*

	1970	1981
TOTAL	60.8	63.1
Males	78.4	73.3
White	78.3	73.0
Black	79.4	75.5
Other**	77.3	71.4
Females	45.1	54.1
White	44.1	52.5
Black	54.7	65.0
Other**	51.6	54.5

*Source: Office of Research and Information, Employment Security Division, Connecticut Labor Department. Annual Planning Information Fiscal Year 1981: New Haven. Hartford: Connecticut Labor Department, July 1980.

Note: Based on projected 1981 population age 16 years and older and 1975 participation rates by race/sex/age.

**Rates based on small population sizes.

TABLE 3.11

LABOR FORCE PARTICIPATION RATE
BY RACE AND SEX - STAMFORD LABOR
MARKET AREA, 1970 and 1981*

	1970 %	1981 %
TOTAL	61.3	72.5
Males	82.7	87.3
White	82.7	87.0
Black	82.2	90.2
Other**	89.6	87.1
Females	43.0	60.1
White	41.7	57.8
Black	60.4	79.8
Other**	54.2	67.8

*Source: Office of Research and Information, Employment Security Division, Connecticut Labor Department. Annual Planning Information Fiscal Year 1981: Stamford. Hartford: Connecticut Labor Department, July 1980.

Note: Based on projected 1981 population age 16 years and older and 1975 participation rates by race/sex/age.

**Rates based on small population sizes.

TABLE 3.12

LABOR FORCE PARTICIPATION RATE
BY RACE AND SEX - WATERBURY LABOR
MARKET AREA, 1970 and 1981*

	1970 %	1981 %
TOTAL	60.8	60.8
Males	77.8	70.4
White	78.1	70.4
Black	72.9	70.6
Other**	71.9	55.0
Females	45.7	52.6
White	45.0	51.6
Black	58.2	65.8
Other**	56.2	56.8

*Source: Office of Research and Information, Employment Security Division, Connecticut Labor Department. Annual Planning Information Fiscal Year 1981: Waterbury. Hartford: Connecticut Labor Department, July 1980.

Note: Based on projected 1981 population age 16 years and older and 1975 participation rates by race/sex/age.

**Rates based on small population sizes.

Participation by 45 to 64 year olds dropped during the period. Most of the growth in all age categories is due to the increased participation of women.

2. The Nature of Labor Force Participation

While women have been expanding the work force, they have not entered it on the same terms as men. Table 3.13 presents data from the 1976 Survey of Income and Education comparing the labor force participation of men and women 14 years and older.

As this table shows, similar portions of the state's male and female populations (about one person in four) worked fewer than 50 weeks in 1975, but twice as many men as women worked the full year (50 to 52 weeks). Also, of those who worked at all during the year, 63% of the women worked at full-time jobs, compared to 88% of the men. Overall, one woman in three and slightly more than two-thirds of the men worked full-time that year.

The reasons offered for working less than the full year or for not working point up further differences between men and women. Women who worked fewer than 50 weeks in 1975 did so, apparently, by choice: 32% were out of work because they were keeping house and 26% because they were going to school (the survey population includes those 14 and older). Only 25% were looking for work. For men, the primary reason given was "looking for work" (44%), with another 31% going to school. For women who did not work at all, "keeping house" was the reason given by 53% of them, "retired" by 17% of them, and "going to school" by 15%. For men, it was "retired" (37%) and "going to school" (36%).

TABLE 3.13

WORK EXPERIENCE IN 1975
PERSONS 14 YEARS AND OLDER IN CONNECTICUT

	Males %	Females %
Worked in 1975	79.8	53.7
Full-time jobs	(87.0)	(62.9)
Part-time jobs	(13.0)	(37.1)
Worked 50+ weeks	54.0	26.9
Worked less than 50 weeks	25.8	26.7
Main reasons:		
Looking for work	(43.8)	(25.2)
Ill or disabled	(6.7)	(6.1)
Going to school	(31.2)	(26.1)
Keeping house	(-)	(32.4)
All other reasons	(17.8)	(10.3)
Did not work in 1975	20.1	46.3
Main reasons:		
Ill or disabled	(12.5)	(8.4)
Going to school	(36.2)	(14.5)
Keeping house	(-)	(53.3)
Retired	(36.6)	(17.0)
All other reasons	(14.7)	(6.8)

Source: Bureau of the Census, U. S. Dept. of Commerce. Spring 1976 Survey of Income and Education (Current Population Reports, Series P-60, Number 110). Washington, D. C.: Bureau of the Census, 1977.

Because the percentages of women and men who are too ill or disabled to work or are of retirement age should be similar but are not, it is apparent that "keeping house" is a catch-all term for those women who were not looking for work in 1975, for a variety of reasons. The availability of "keeping house" as a legitimate reason for not working, or for dropping in and out of the labor force when economic circumstances permit, creates a real difference between men and women in the labor force, which becomes increasingly significant as participation by women increases. This difference affects both the workplace and the types of adult vocational education needed.

3. Unemployment

Adult vocational education is most important to those who count themselves among the available labor force but cannot find work. Connecticut fortunately has had a lower than average unemployment rate (See Table 3.14). The seasonally adjusted rate of 6.5% in the final month of 1980 was again below the national average of 7.4%.* In some portions of the State (i.e., the labor market areas of Norwalk, Stamford, and Willimantic) the unadjusted unemployment rate was below 5%; however, it exceeded 10% in the Ansonia and Danielson areas. A total of 100,700 Connecticut residents were unemployed in December, including those receiving unemployment benefits, those who were ineligible or whose benefits had expired, those people entering or reentering the labor force, and workers who were not entitled to wages during seasonal closings. Not counted among the unemployed, though, are those persons who have given up on looking for work, and no estimate of this group is available.

*Employment Security Division, Connecticut Labor Department. Connecticut Labor Situation (January 1981). Hartford: Connecticut Labor Department, January 1981.

TABLE 3.14

PROJECTED UNEMPLOYMENT BY LABOR MARKET AREA - FY '81
(Persons 16 Years and Older)

Labor Market Area	Total	White		Non-white	
		Male	Female	Male	Female
	%	%	%	%	%
State Total	5.6	4.5	5.8	9.9	11.7
Bridgeport	5.6	4.5	5.9	9.5	9.1
Hartford	5.5	4.5	4.9	12.0	13.0
New Haven	5.5	4.1	4.8	10.1	13.4
Stamford	4.4	3.8	4.0	11.3	6.0
Waterbury	6.8	4.6	8.3	10.3	13.9
Balance of State	5.5	4.6	6.3	7.5	11.1

Source: Office of Research and Information, Employment Security Division, Connecticut Labor Department, Connecticut Annual Planning Information Fiscal Year 1981 and related volumes. Hartford: Connecticut Labor Department, July 1980.

Young adults figure prominently in this group. It has been estimated that about 31.5% of all 14 to 24 year olds desire a job but are not actively looking for one, having been discouraged at the prospects of finding or holding a job.* In 1978, when Connecticut's unemployment rate was 5.2%, one-fourth of the unemployed were under 22 years old.** Youth constituted an even larger proportion of the unemployed in urban areas.

4. Implications for Adult Vocational Education

The most significant aspect of labor force participation for adult vocational education planners is the changing role of women in the labor force. Adult women reentering the labor force are among those most in need of training. Many did not expect to need vocational skills at the time they attended high school, but now need the income or other benefits of paid work. Others received vocational training, but find their skills outdated or are now attracted to higher-paying positions in fields previously open only to men. The in-and-out pattern of women's participation in the labor force means that reentry training will continue to be necessary in future years.

Also significant is the entry of more teenagers into the labor force. This earlier entry will offset, to some extent, the reduction in the absolute numbers of youth in the population, and keep up the pressure of job competition for this group. Out-of-school youth must be included in adult vocational education.

*Northeastern University. CETA Planning Package for Connecticut: Findings from the 1976 Survey of Income and Education. Cited in Youth in Connecticut's Labor Force, by the Office of Research and Information, Conn. Dept. of Labor, October 1979.

**Ibid.

C. THE STATE ECONOMY

1. General Economic Health*

With unemployment comfortably below the national average and job openings growing faster than the labor force, Connecticut's economy is a healthy one. The State Labor Department expects the State's economy to outperform that of the nation, at least through 1981. Transportation equipment and exports, two important sectors of the economy, have experienced and should continue to experience growth through at least mid-1982.

With 435,000 persons employed in manufacturing jobs, Connecticut is one of the most highly industrialized States in the country. Three quarters of these jobs are in metallic manufacturing industries, with transportation equipment and fabricated metals the leading areas, followed by machinery, electrical equipment, instruments and clocks, and primary metals. Important nonmetallic industries include printing and publishing, chemicals, rubber and plastics, food, apparel and textiles. The manufacturing in the State is highly diversified, providing additional economic stability. Despite the heavy industrialization, Connecticut also has a large nonmanufacturing sector, accounting for over two-thirds of the State's non-farm jobs.

Although Connecticut's unemployment has risen in the past year, reflecting the general economic problems of the nation as a whole, there are several indications that the State will be generally spared the full effect of the national decline. The retooling of automobile manufacturing plants to produce smaller cars is helping Connecticut's machine tool industry. The continued good performance of the electronics, instruments and insurance

*Office of Research and Information, Connecticut, op cit.

industries helps the State, as will any increase in defense contracting, as these are all important segments of the economy. The increased demand for office space and the continuing trend for relocation of corporate headquarters in Fairfield County all promise growth in the service sector as well.

2. Regional Variations

Although Connecticut's manufacturing enterprises are largely located in the Hartford, Bridgeport, New Britain, Middletown, and Waterbury areas, eastern Connecticut also depends on manufacturing and has a relatively healthy future in this area.* This part of the State, which includes the Danielson, Norwich, New London, and Willimantic labor markets plus a small part of the Hartford labor market, has 112 manufacturers. Two-thirds of them plan on expansions between 1979 and 1985, adding more than 6,100 jobs to the economy. However, over half of the manufacturers are located in Groton, and unemployment has been running high in the northeast. One-fifth of the firms and 49% of the manufacturing jobs are in defense work. This should mean more work for this region if defense spending is increased as planned.

In the Middletown labor market area, too, increased defense spending will provide a boost; the area is largely dependent on defense contracts, and especially on the Pratt-Whitney Corporation. Downturns in construction, recreation-oriented manufacturing and manufacturing related to automobile production have been negatively affected there, but there has been an

*Eastern Connecticut Development Council, Inc. Eastern Connecticut Survey of Manufacturers 1979-1980. Norwich: ECDC, 1980.

increasing demand on machine and metal fabrication firms.* The Zygo Corporation, an optics manufacturer, will also undergo major expansion over the next five years.**

In the New Haven area, employment in manufacturing and agriculture is expected to decrease while nonmanufacturing industries experience growth. Unemployment has not been as high here as elsewhere in the State. The New Haven area has primarily a manufacturing economy, but it is in the process of shifting in favor of nonmanufacturing employment.***

The Bridgeport labor market area is heavily dependent on the transportation equipment industry and defense contracts, but the dominance of manufacturing in the area has been declining. The area is attempting to diversify its industries in the 1980's. Unemployment has been, and is expected to continue, higher than the State average, although still below the national level. Some increase in unemployment is expected.****

The Stamford area is experiencing significant growth in the nonmanufacturing sector, with the redevelopment of the Stamford city center and the construction of major office buildings, a regional shopping center and a hotel. Unemployment has been declining in the area.*****

The Danbury area has been one of remarkable growth in the past decade, and will continue to expand as it develops into a center for high

*From CETA needs assessment data provided by the State Labor Department, Office of Employment and Training, 1980.
**From a survey of Chambers of Commerce by the State Education Planning Committee, 1980.
***Office of Research and Information, New Haven, op cit.
****_____, Bridgeport, op cit.
*****_____, Stamford, op cit.

technology corporations and a location for corporate headquarters. The Torrington area, to the north, will see three new firms moving into the area at the same time that they are experiencing lay-offs in existing industries.*

The Waterbury labor market area has been growing in the past decade, attracting high-technology industries while existing industries expand. State and local government investment in industrial development for the area is credited with producing a strong economy in all sectors here.**

Finally, the North Central portion of the State, the Hartford area, has a diverse economic base. It is home to the insurance industry, several large banking concerns, and the State government. Manufacturing in the area includes aircraft engines, space equipment, air pollution control systems and firearms. Several large department stores are also headquartered here.***

3. Implications for Adult Vocational Education

Connecticut's economy will be healthier than that of other States in the near future. For vocational educators, this will mean less difficulty in placing graduates and more opportunity for employees to train for upgrading of skills.

Maintaining that healthy economy requires that the State's labor force be ready to meet changed labor demands. Those demands include an

*From CETA needs assessment data provided by the Office of Employment and Training, Labor Department.
**Office of Research and Information, Waterbury, op cit.
***_____, Hartford, op cit.

increasing emphasis on high-technology design, manufacture, and maintenance, especially in the western part of the State. Across the State, office workers will be needed in greater numbers. At the same time, the manufacturing sector, the backbone of the State's economy, will continue to need skilled workers to replace those who are reaching retirement age. More detail on specific occupations where training is needed may be found in the next section of this report.

D. EMPLOYMENT OPENINGS

1. Labor Department Projections

Vocational training of adults is largely wasted if no employment is available for graduates in the field for which they were trained. The number of future openings in an occupation in a limited geographical area is a critical piece of information which every educational planner would like to have. The State Department of Labor, in conjunction with the Federal Bureau of Labor Statistics, attempts to put together such projections each year. These projections must be viewed with a healthy skepticism born of an understanding of how they are derived.

The methods used to project openings due to growth and separations base their projections on trends. New and emerging occupations tend to be underestimated, and the effects of single or multiple events with estimatable probabilities are ignored. Thus, the data must be interpreted carefully in light of all that is known about the possible and probable future of the area's economy and population.

Tables 3.15, 3.16 and 3.17 provide a first-cut view of the employment picture in Connecticut for the next five years. First, as shown in

Table 3.15, Connecticut's agricultural sector, as small as it is, will continue to shrink. This does not mean that their is no role for agricultural education. On the contrary, there are many fields such as landscaping and nursery sales which utilize the skills traditionally taught in agricultural programs. However, nearly all of the State's employment in 1985 will be in the nonagricultural sector.

Within that sector, about 3/10 of all employees are now employed in manufacturing (See Table 3.16). And while the absolute number of persons employed in manufacturing will continue to climb slowly, there will be a net decrease in the percentage of workers employed there. Within manufacturing, the total number of positions in nonmetal manufacturing (e.g., food, textiles, chemicals) will decline, while there will be a slight increase in the number of manufacturing positions working with metal and its products.

Nonmanufacturing industries (See Table 3.17) will continue to grow through 1985. Wholesale and retail trade and services will provide the bulk of the growth in the nonmanufacturing area. Wholesale trade will see the greatest percentage change.

TABLE 3.15

ACTUAL AND PROJECTED GROWTH BY INDUSTRY,
CONNECTICUT 1974-1985

Industry	Employment Change 1974-81		Employment Change 1981-85	
	Percent Change	Average Annual	Percent Change	Average Annual
	%		%	
Total Employment	8.77	16,850	5.22	19,096
Nonagricultural Employment	9.34	17,559	5.33	19,170
Manufacturing	0.22	135	1.28	1,368
Metal and its Products	2.17	948	1.71	1,335
Nonmetallic	-4.70	-813	0.11	32
Nonmanufacturing	13.72	17,424	7.05	17,802
Construction	-5.74	-621	-2.67	-477
Transportation, Communications and Utilities	10.43	904	2.43	407
Trade	17.59	6,755	9.25	7,309
Wholesale	26.10	2,135	12.34	2,227
Retail	15.28	4,620	8.33	5,082
Finance, Insurance and Real Estate	20.06	2,490	9.43	2,458
Service	15.66	7,691	7.22	7,174
Public Administration	2.71	205	6.85	931
Agricultural Employment	-17.28	-710	-1.24	-74

Source: Office of Research and Information, Employment Security Division, Connecticut Labor Department. Connecticut Annual Planning Information Fiscal Year 1981. Hartford: Connecticut Labor Department, July 1980.

TABLE 3.16

PERCENTAGE OF ALL EMPLOYED PERSONS BY EMPLOYMENT SECTOR, 1974-1985*

	1974 %	1980 %	1981 %	1985 %
Nonagricultural Employment	97.86	98.34	98.37	98.47
Agricultural Employment	2.14	1.66	1.63	1.53
	100.00	100.00	100.00	100.00

*Percentages in this table, based on "total employment" concept, may differ from others based on "establishment" concept, covering only wage and salary workers.

Source: Office of Research and Information, Employment Security Division, Connecticut Labor Department. Connecticut Annual Planning Information Fiscal Year 1981. Hartford: Connecticut Labor Department, July 1980.

TABLE

PERCENTAGE OF NONAGRICULTURAL EMPLOYEES BY INDUSTRY GROUP, 1974-1985*

	1974 %	1980 %	1981 %	1985 %
Manufacturing	32.43	30.09	29.73	28.59
Metal and its Products	(23.24)	(21.94)	(21.71)	(20.97)
Nonmetallic	(9.20)	8.15)	(8.02)	(7.62)
Nonmanufacturing	67.57	69.91	70.28	71.41
	100.00	100.00	100.00	100.00

*Percentages in this table, based on "total employment" concept, may differ from others based on "establishment" concept, covering only wage and salary workers.

Source: Office of Research and Information, Employment Security Division, Connecticut Labor Department. Connecticut Annual Planning Information Fiscal Year 1981. Hartford: Connecticut Labor Department, July 1980.

TABLE 3.17

PERCENTAGE OF NONMANUFACTURING
EMPLOYEES BY INDUSTRY, 1974-1985*

	1974	1980	1981	1985
Construction	8.51	6.72	7.06	6.43
Transportation, Communication and Utilities	6.82	7.29	6.63	6.34
Trade	30.25	31.08	31.27	31.93
Wholesale	(6.44)	(7.05)	(7.15)	(7.49)
Retail	(23.81)	(24.03)	(24.13	(24.42)
Finance, Insurance and Real Estate	9.77	10.08	10.31	10.55
Service	38.67	39.42	39.33	39.39
Public Administration	5.96	5.43	5.38	5.38
	100.00	100.00	100.00	100.00

*Percentages in this table, based on "total employment" concept, may differ from others based on "establishment" concept, covering only wage and salary workers.

Source: Office of Research and Information, Employment Security Division, Connecticut Labor Department. Connecticut Annual Planning Information Fiscal Year 1981. Hartford: Connecticut Labor Department, July 1980.

While only 3/10 of the State's total positions are in manufacturing, close to half the jobs in the Bristol, Danielson, and New Britain labor markets are. In the Willimantic area, though, 85% are employed in nonmanufacturing positions. Thus, vocational education graduates face differing job prospects depending on the part of the State in which they reside.

Figure 3.4 presents a ranked list of projected annual openings for the State as a whole over the next five years. Figures 3.5, 3.6, 3.7, 3.8, and 3.9 which follow present similar ranked lists for the Bridgeport, Hartford, New Haven, Stamford, and Waterbury labor market. The top five are the same on every list, although the order varies slightly.

The greatest number of job openings will be found in the following categories:

- Other clerical workers (e.g., bookkeepers, cashiers, file clerks, telephone operators, and miscellaneous clerical workers - does not include typists, secretaries, or office machine operators) - for many of these positions, only a high school diploma is required; on-the-job training is normally provided by the employer.*

- Operatives, except transportation (e.g., checkers, welders, assemblers, sewers and stitchers, gas station attendants, drill press operators) - although many of these occupations can be learned on-the-job and do not require high school graduation, vocational training and a diploma can be helpful; apprenticeship or on-the-job training may be required for some of these occupations.*

*Information extracted from Occupational Projections and Training Data. Bulletin 2020, Bureau of Labor Statistics, U.S. Department of Labor, 1979.

FIGURE 3.4

OCCUPATIONS RANKED BY PROJECTED ANNUAL OPENINGS, 1980-1985 - CONNECTICUT

1. Clerical workers other than stenographers, typists, secretaries, office machine operators (bookkeepers-1,220; cashiers-1,020; misc. clerical workers-2,250) 9,420
2. Operatives, except transportation (semi-skilled packing, inspecting-1,580; assemblers-1,230; misc. machine operatives-950; semi-skilled metalworking-910) 6,650
3. Managers, officials and proprietors other than buyers, sales, loan managers, public inspector/administrators (restaurant, cafe, bar managers-620) 5,880
4. Stenographers, typists, secretaries (typists-1,120; secretaries other than legal or medical-3,810) 5,520
5. Sales workers (insurance agents, brokers, etc.-590; real estate agents, brokers-570) 5,350
6. Food service workers (waiter/waitresses-1,720; cooks, except private-1,390) 4,730
7. Cleaning service workers (janitors and sextons-1,470) 2,960
8. Other professional, technical (accountants-640; lawyers-510) 2,710
9. Medical workers, except technologists and technicians (RNs-1,150) 2,600
10. Health service workers 2,140
11. Laborers, except farm 2,110
12. Buyers, sales, loan managers 1,810
13. Mechanics, repairers, installers 1,800
14. Transportation equipment operatives 1,550
15. Construction crafts workers 1,320
16. Metalworking craft workers 1,320
17. Writers, artists, entertainers 1,250
18. Personal service workers 1,250
19. Protective and service workers 1,230
20. Blue collar worker supervisor 1,130
21. Teachers 1,040
22. Engineers, technical 930
23. Other crafts, kindred workers 860
24. Engineering, science technicians 780
25. Public inspector/administrators 720
26. Health technologists and technicians 550
27. Farmers and farm workers 490
28. Private household workers 340
29. Computer specialists 290
30. Office machine operators 250
31. Printing trade crafts workers 230
32. Social scientists 210
33. Technicians, except health 160
34. Life and physical scientists 120
35. Mathematical specialists 120
36. Transportation, public utility crafts workers 80

FIGURE 3.5

OCCUPATIONS RANKED BY PROJECTED ANNUAL OPENINGS,
1980-1985 - BRIDGEPORT LABOR MARKET AREA

1.	Operatives, except transportation (semiskilled metalworking - 120; semiskilled packing, inspecting - 240)	1,090
2.	Other clerical workers (bookkeepers - 150; cashiers - 100; misc. clerical workers - 250)	1,080
3.	Stenographers, typists, secretaries	630
4.	Other managers, officials, proprietors	620
5.	Sales workers	550
6.	Food service workers	420
7.	Health service workers	420
8.	Cleaning service workers	340
9.	Medical workers, except technicians	330
10.	Other professional, technical (accountants - 70; lawyers - 60)	330
11.	Mechanics, repairers, installers (auto mechanics and apprentices - 70; heavy equipment mechanics - 60)	270
12.	Laborers, except farm	230
13.	Buyers, sales, loan managers (Bank, financial managers - 80)	210
14.	Metal working craft workers (machinists and apprentices - 60; tool and die makers and apprentices - 70)	210
15.	Personal service workers	190
16.	Transportation equipment operatives	180
17.	Protective and service workers (guards - 90)	170
18.	Construction crafts workers	150
19.	Blue collar worker supervisor	150
20.	Engineers, technical	140
21.	Writers, artists, entertainers	130
22.	Engineering, science technicians	110
23.	Teachers	110
24.	Administrators, public inspectors (health administrators - 40)	90
25.	Other crafts, kindred workers	90
26.	Health technologists and technicians	80
27.	Office machine operators	40
28.	Computer specialists	30
29.	Printing trade craft workers	30
30.	Private household workers	30
31.	Technicians, except health	20
32.	Social Scientists	10
33.	Transportation, public utilities, crafts workers	10
34.	Life and physical scientists	0
35.	Mathematical specialists	0
36.	Farmers and farm workers	10

FIGURE 3.6

OCCUPATIONS RANKED BY PROJECTED ANNUAL OPENINGS,
1980-1985 - HARTFORD LABOR MARKET AREA

1.	Other clerical workers (bookkeepers - 350; misc. clerical workers - 660)	2,890
2.	Stenographers, typists, secretaries	1,800
3.	Sales workers	530
4.	Other managers, officials, proprietors	590
5.	Operatives, except transportation (semiskilled packing, inspecting - 310; semiskilled metalworking - 230; assemblers - 210)	1,340
6.	Food service workers (waiters/waitresses - 330; cooks, except private - 230)	930
7.	Cleaning service workers	810
8.	Medical workers, except technicians (RN's - 290; physicians - 150)	630
9.	Health service workers (nurses' aides, orderlies - 280; practical nurses - 190)	550
10.	Buyers, sales, loan managers	530
11.	Mechanics, repairers, installers (auto mechanics and apprentices - 130)	510
12.	Teachers	450
13.	Laborers, except farm	440
14.	Transportation equipment operators	440
15.	Other profession, technical (accountants - 250; lawyers - 160)	370
16.	Personal service workers	360
17.	Engineers - technical	340
18.	Metalworking craft workers (tool and die makers and apprentices - 100; machinists and apprentices - 90)	340
19.	Writers, artists, entertainers	320
20.	Protective and service workers	320
21.	Blue collar worker supervisors	300
22.	Administrators, public inspectors	220
23.	Other crafts, kindred workers	220
24.	Engineering, science technicians (drafters - 80)	210
25.	Construction crafts workers	170
26.	Health technologists and technicians	170
27.	Computer specialists	140
28.	Office machine operatives	120
29.	Farmers and farm workers	120
30.	Printing trade craft workers	80
31.	Mathematical specialists	80
32.	Private household workers	60
33.	Social scientists	40
34.	Life and physical scientists	30
35.	Technicians, except health	30

FIGURE 3.7

OCCUPATIONS RANKED BY PROJECTED ANNUAL OPENINGS, 1980-1985 - NEW HAVEN LABOR MARKET AREA

1. Clerical workers other than stenographers, typists, secretaries, office machine operators (bookkeepers-140; cashiers-110; misc. clerical workers-330) 1,200
2. Stenographers, typists, secretaries 710
3. Operatives, except transportation (semi-skilled packing, inspecting-150; misc. machine operators-90; assemblers-80) 630
4. Other managers, officials, proprietors (office managers-50; restaurant, cafe, bar managers-30) 630
5. Sales workers (real estate agents, brokers-50; insurance agents, brokers, etc.-40) 630
6. Cleaning service workers 450
7. Medical workers, except technologists and technicians (RNs-160) 390
8. Other professional, technical (accountants-80; lawyers-70; research workers-50) 390
9. Food service workers (cooks, except private-130) 340
10. Health service workers (nurses aides, orderlies-110; practical nurses-100) 260
11. Laborers, except farm 250
12. Teachers 230
13. Construction crafts workers (carpenters and apprentices-60) 210
14. Transportation equipment operatives 210
15. Personal service workers 210
16. Buyers, sales, loan managers 190
17. Protective and service workers 180
18. Mechanics, repairers, installers 180
19. Writers, artists, entertainers 170
20. Blue collar worker supervisor 120
21. Health technologists and technicians 100
22. Other crafts, kindred workers 100
23. Engineering, science technicians 90
24. Metalworking craft workers 90
25. Administrators, public 80
26. Engineers, technical 60
27. Printing trade crafts workers 40
28. Transportation, public utility crafts workers 40
29. Farmers and farm workers 40
30. Computer specialists 30
31. Social scientists 30
32. Office machine operators 30
33. Private household workers 30
34. Life and physical scientists 20
35. Mathematical specialists 20
36. Technicians, except health 20

FIGURE 3.8

OCCUPATIONS RANKED BY PROJECTED ANNUAL OPENINGS
1980-1985 - STAMFORD LABOR MARKET AREA

1.	Other clerical workers (bookkeepers - 130; misc. clerical - 200)	840
2.	Other managers, officials, proprietors	590
3.	Sales workers	530
4.	Operatives, except transportation (semiskilled packing, inspecting - 110; assemblers - 90; misc. machine operatives - 80)	530
5.	Stenographers, typists, secretaries	520
6.	Other professional, technical (lawyers - 100; accountants - 70)	320
7.	Cleaning service workers	260
8.	Food service workers (waiters/waitresses - 90; cooks, except private - 70)	240
9.	Laborers, except farm	220
10.	Buyers, sales, loan managers	190
11.	Medical workers, except technicians	160
12.	Construction crafts workers	160
13.	Mechanics, repairers, installers	160
14.	Transportation equipment operatives	140
15.	Health service workers (nurses' aides, orderlies - 60; practical nurses - 60)	140
16.	Writers, artists, entertainers	120
17.	Private household workers (private household cleaners, servants - 60)	100
18.	Engineers, technical	90
19.	Blue collar worker supervisor	90
20.	Personal service workers	90
21.	Other crafts, kindred workers	80
22.	Protective and service workers (guards - 60)	80
23.	Engineering, science technicians	70
24.	Metalworking craft workers	70
25.	Health technologists and technicians	40
26.	Teachers	40
27.	Computer specialists	30
28.	Administrators, public inspectors	30
29.	Life and physical scientists	20
30.	Social scientists	20
31.	Office machine operatives	20
32.	Printing trade craft workers	20
33.	Farmers and farm workers	20
34.	Mathematical specialists	20
35.	Transportation, public utilities craft workers	10
36.	Technicians, except health	0

FIGURE 3.9

OCCUPATIONS RANKED BY PROJECTED ANNUAL OPENINGS, 1980-1985 - WATERBURY LABOR MARKET AREA

1.	Operatives, except transportation (semi-skilled packing, inspecting-150; assemblers-150; misc. machine operatives-90)	630	
2.	Other clerical workers (bookkeepers-60; cashiers-60; misc. clerical workers-130)	550	
3.	Stenographers, typists, secretaries (secretaries other than legal, medical-220; typists-60)	330	
4.	Other managers, officials, proprietors	280	
5.	Sales workers	240	
6.	Health service workers (nurses aides, orderlies-100)	190	
7.	Food service workers (waiters, waitresses-60; cooks, except private-50)	180	
8.	Medical workers, except technologists, technicians	170	
9.	Other professional, technical (lawyers-40; accountants-30; research workers-30)	170	
10.	Cleaning service workers	170	
11.	Laborers, except farm	140	
12.	Buyers, sales, loan managers	110	
13.	Personal service workers	100	
14.	Protective and service workers	100	
15.	Construction crafts workers	90	
16.	Mechanics, repairers, installers	90	
17.	Writers, artists, entertainers	70	
18.	Blue collar worker supervisor	70	
19.	Metalworking craft workers	70	
20.	Transportation equipment operatives	70	
21.	Other crafts, kindred workers	60	
22.	Administrators, public inspectors	50	
23.	Engineers, technical	40	
24.	Engineering, science technicians	40	
25.	Health technologists and technicians	40	
26.	Farmers and farm workers	30	
27.	Teachers	20	
28.	Private household workers	20	
29.	Life and physical scientists	10	
30.	Computer specialists	10	
31.	Office machine operators	10	
32.	Printing trade crafts workers	10	
33.	Transportation, public utility crafts workers	10	
34.	Mathematical specialists	-	
35.	Technicians, except health	-	
36.	Social scientists	-	

- Other managers, officials and proprietors (e.g., restaurant managers, office managers, building superintendents, funeral directors) - these jobs may require an internship and/or licensing, or experience in related positions; in most cases, no special management training is required.*

- Stenographers, typists, secretaries (e.g., medical secretaries, legal secretaries, other secretaries, typists, stenographers) - high school graduation, good spelling, punctuation and grammar, are basic requirements; special vocational training and/or cerfification required for many types of positions.*

- Sales workers (e.g., insurance agents, real estate agents, brokers, advertising agents, general sales workers) - high school or college graduation and/or licensing may be required; informal training by experienced personnel common.*

Other occupations ranked fairly high, for which vocational training might be required, include food service workers, cleaning service workers, and health service workers.

Although computer specialists and technicians appear toward the end of these ranked lists, their growth is most likely underestimated by the projection techniques used.

*Information extracted from Occupational Projections and Training Data. Bulletin 2020, Bureau of Labor Statistics, U.S. Department of Labor, 1979.

2. Supplementary Information

The Labor Department projections are simply that, projections, and not forecasts. They are based on trends in the labor force, and the models used can not account for recent events or plans which might affect the future. By reviewing other studies of labor needs in the State, needed occupations can be better forecast.

A survey of Connecticut's businesses and industries was made in 1977 by the Connecticut Business and Industry Association and The Connecticut Tool, Die and Precision Machining Association. It identified the following job categories as difficult to fill with skilled workers:*

- Skilled machinists - all kinds
- Computer programmers
- Electronic assemblers
- Key punch operators
- Mold makers
- Coremakers
- Weavers
- Millwrights
- Tool and die makers
- Screw machine operators
- Grinders
- Drill operators
- Power press operators
- Sewing machine operators
- Sheet metal workers
- Plastic injection molders
- Assemblers
- Secretaries
- Tinsmiths
- Model makers
- Technicians - all kinds
- Heat treat operators
- Electricians
- Cabinet makers
- Finishers
- Software computer specialists
- Electronics engineers and technicians
- Loomfixers
- Production mechanics
- Press men
- Welders
- Setup men - all kinds
- Metal spinners
- Metal solderers
- Draftsmen
- Electronic maintenance and repair people
- Pattern makers
- Turret lathe operators
- Milling machine operators
- Wire forming machine operators
- Platers
- Pipefitters
- Printing trades
- Strippers
- Maintenance - all kinds
- Woodworking craftsmen

Trained metal workers are in constant demand in Connecticut. A 1980 study by the Connecticut Balance-of-State Private Industry Council surveyed

*Connecticut Business and Industry Association. Unfilled Jobs in the Midst of High Unemployment. Hartford: CBIA, November 1977.

Connecticut's metal working industries (outside of the five CETA prime sponsor areas) regarding their need for 20 job categories through 1984.* Those categories with the greatest need for new employees were:

. Assemblers, class B (2,259 needed)

. Supervisor, non-working (1,139 needed)

. Machinist, highly diversified (990 needed)

. Welders and flamecutters, class B (819 needed)

. Machine tool setter (706 needed)

. Assemblers, class A (706 needed)

The class B assemblers will be needed most in the Middletown and Meriden labor market areas, but also in the other parts of the State. Supervisors and machinists will be needed throughout the State, but especially in the New Britain area. The welders and flamecutters will be needed almost exclusively in the southeastern part of the State (New London/Norwich). The machine tool setters will be needed in the New Britain and New London/Norwich areas primarily. Danbury and the Central Naugatuck Valley will be hiring most of the class A assemblers.

In 1978, the University of Bridgeport Urban Management Institute surveyed Stamford area employers.** They listed the following as skills in shortage:

. Professional and Technical
  .. Electronic engineers, technicians, assemblers
  .. Electrical engineers
  .. Electro-optical engineers
  .. Health-medical technicians
  .. Draftpersons
  .. Computer programmers

*Connecticut Balance-of-State Private Industry Council.
The Growing Job Market for Trained Workers 1980-1984.
New Britain: New Britain Chamber of Commerce, October 1980.

**Urban Management Institute, University of Bridgeport.
Matching People and Jobs in Southwestern Connecticut: Toward an Action Plan (Conference Proceedings).
Bridgeport: Urban Management Institute, August 1979.

.. Systems analysts
.. Market researchers
.. Microwave technicians

. Clerical
.. Bilingual secretaries
.. Legal secretaries
.. Insurance secretaries
.. Bookkeeping clerks
.. (Good) typists
.. Transcriptionists
.. Tellers
.. Vydec operators

. Craftsmen
.. Precision sheet metal mechanics
.. Tool die makers
.. Model makers

. Operatives
.. Sewing machine operators
.. Truck drivers
.. Photo typesetting operators
.. (Qualified) machine operators
.. Mechanics
.. Roofers and siding installers
.. Typesetters
.. Pipe fitters

They also noted that the area had many skills in surplus, including salespersons, poorly trained clerks and secretaries, and poorly trained machine operators.

A review of Connecticut Job Bank listings in November 1980 shows the following as some of the most difficult positions to fill:*

. Nurse, general duty (122 of 123 unfilled)

. Nurse, licensed practical (102 of 109 unfilled)

. Cashier-wrapper (111 of 119 unfilled)

. Sales agent, insurance (71 of 87 unfilled)

. Sales clerk (106 of 146 unfilled)

. Telephone solicitor (49 of 54 unfilled)

. Child monitor (127 of 145 unfilled)

. Caretaker (238 of 247 unfilled)

*Employment Security Division, Connecticut Labor Department. Occupations in Demand at Job Service Offices in Connecticut (November 1980).

- Machinist (112 of 167 unfilled)
- Machine set-up operator (61 of 85 unfilled)
- Production-machine tender (129 of 194 unfilled)
- Maintenance mechanic (66 of 83 unfilled)
- Electronics assembler (150 of 203 unfilled)
- Ship fitter (80 of 80 unfilled)
- Electrician (70 of 80 unfilled)

The six regional focus group meetings conducted for this study provided some additional insight into local conditions. In Region I (Danbury, Torrington-Waterbury), participants confirmed that the area was experiencing an influx of corporate headquarters, electronics firms, and other businesses.

As a result of the rapid technological changes locally, a greater number of older students are seeking vocational training, and a demand exists for those trained in electronic technology and tool and die making.

In Region II (Bridgeport-Norwalk-Stamford), most participants agreed that there was an oversupply of unskilled labor, specifically those with language barriers. Also included in the oversupply category were auto mechanics and, possibly, welders (it was noted that welding students are difficult to place locally, but can find work in other parts of the State). The group agreed that a strong need existed for office workers with specific skills, including executive secretaries, data and word processors, and computer technicians. Also noted was increasing demand for non-farm agricultural occupations such as landscaping and horticultural services in the region. Health service workers, tool and die workers, pattern makers, and sheet metal workers were seen as undersupplied.

Region III (Ansonia-Meriden-New Haven) participants cited early childhood education workers, entry level data processors, and unskilled clerical workers as all being in oversupply locally.

In Region IV (Bristol-Hartford-New Britain), the occupations in oversupply were seen as unskilled laborers, especially in the building trades, social workers, mental health workers and liberal arts graduate without special skills or experience. In short supply, according to participants, are skilled clerical workers (bookkeepers, stenographers), machinists, office machine repair personnel, computer programmers, and energy related occupations including environmental specialists and chemists. A few participants mentioned shortages of nurses, medical assistants, nurses aides, day care workers, and skilled food service workers.

The focus group in Region V (Danielson-Willimantic) was unanimous in citing an oversupply of unskilled workers, i.e., custodians, general construction laborers, etc. More than half the group felt that typists and file clerks were in oversupply. Semi-skilled workers (e.g., general bench assembly workers, masons, carpenters' helpers) were also seen as oversupplied. Nurses' aides were noted as too abundant, while too few registered nurses are available. Mentioned as undersupplied were trained office administrators; data processors; stenographers; computer operators; programmers; bilingual social work, accountants, bankers and bookkeepers; skilled machine operators; screw machine operators; set-up operators; and other metal workers.

Finally, in Region VI (Middletown-New London-Norwich), the participants listed several categories of professionals in oversupply, as well as unskilled laborers (especially in the building trades) and unskilled

clerical workers. Also in too great numbers are auto mechanics, auto body workers, construction workers, unskilled assembly linemen, and postal workers in the region, according to the group. In several instances, the group noted that skilled workers were in short supply while unskilled workers in the same field (e.g., registered nurses/LPN's, stenographers/ file clerks) were overabundant. Other undersupplied occupations noted by the group were masons, welders, plumbers, pipe fitters and machine mechanics, defense plant workers, shipyard trades, data and word processors, computer operators, electronic technicians, nuclear technologists, and food service workers. In all occupational areas, need for more bilingual workers was noted. The group noted that two new shopping malls in the region would create 2,000 new jobs and a new civic center in New London would add 2,500 jobs to the retail market. A new court house and the development of New London harbor should create many more jobs, as will the Norwich Industrial Park, the Aetna Office Complex and a large data processing center being built in the region. They noted that tourism, a major economic segment in the region, is at an all-time high, and that the number one employer in the region, Electric Boat, has an open labor market.

Although the emphasis in all of the above has been the dominant manufacturing segment and the growing office work segments, Connecticut does have an agricultural sector as well, including the production of tobacco, eggs, poultry, mushrooms, apples, and nursery plants. Those who work at these jobs are primarily seasonal employees, including teenagers, disadvantaged, unskilled urban residents (especially newly-arrived Hispanics) and West Indian workers who are brought into the country seasonally.*

*Employment Security Division, Connecticut Department of Labor. Annual Rural Employment Report. Hartford: Labor Department, 1979.

Due to increasing land values and a trend away from labor-intensive crops, there is less farming every year in Connecticut. Graduates of vocational agriculture programs in the State ranks seventh out of the eight secondary level vocational programs in the percentage of graduates employed in the occupation for which they were trained or in a related occupation.* (A greater than average percentage continue in full-time training). In addition to farms, related agricultural employers include pet shops, landscape contractors, lawn maintenance services, campgrounds, tobacco products manufacturers, meat packing plants, agricultural limestone and top soil firms, stables, farm equipment dealers, horse dealers, taxidermists, feed dealers, florists, and dairies.

*A. J. Mannebach, W. D. Kline. Connecticut's Vocational Agriculture Program: Program Analysis Final Report. Storrs: University of Connecticut, June 1980.

3. Implications for Adult Vocational Education

Connecticut is, geographically, a small State. Yet, even within a small area, economic and employment conditions may vary from place to place. The graduates of welding programs in one part of the State may find it difficult to obtain work, while, at the other end of the State, employers cannot hire enough trained welders. State statistics tend to mask such differences. The clear implication is that vocational programs must be designed to meet local employer needs - especially when those programs are aimed at adults, for whom immediate employment is a principal objective in seeking training. Program planners must monitor and predict the local employment situation and must be flexible in adapting programs to produce employable graduates.

E. Availability of Vocational Programs

1. Geographic Location of Schools and Programs

Adults seeking vocational education in Connecticut currently have available to them:

17 regional vocational-technical schools offering full-day and evening training;

12 regional community colleges;

5 state technical colleges;

2 other state colleges offering Associate degrees;

12 private colleges and universities awarding Associate degrees;

107 (approx.) proprietary institutions; and

22 high schools with adult programs.

Table 3.18 and Figure 3.10 show the geographic distribution of these schools. The schools are generally located along a spine which passes through Stamford, New Haven and Hartford. The Torrington, Danbury,

TABLE 3.18

NUMBER OF VOCATIONAL TECHNICAL SCHOOLS BY TYPE AND LABOR MARKET AREAS*

Labor Market Areas	Hartford-Bristol-New Britain Areas	Danielson-Willimantic Areas	New Haven-Ansonia-Meriden Areas	Norwich-New London-Middleto... Areas	Stamford-Norwalk-Bridgeport Areas	Torrington-Danbury-Waterbury Areas
State regional vocational technical schools	3	2	3	3	3	3
State colleges (Associate degrees)	3	2	2	3	3	4
Private independent colleges (Associate degrees)	3	-	4	1	3	1
High schools	6	1	4	5	3	3
Approved private occupational schools	29	0	13	3	23	7
Cosmetology schools**	12	2	4	2	6	3
Flight instruction schools**	4	1	1	1	0	2
Hospital schools**	6	1	4	2	5	2
Other**	8	0	0	2	4	0

*Figures include 1981 RVTS counts, all colleges and universities offering Associate degrees in 1981 (Board of Higher Education listing), public high schools reporting adult vocational education programs to the Division of Vocational and Adult Education in 1981, private occupational schools approved as of April 1980, and other schools as listed in the 1978 Vocational Career Guide for Connecticut.

**Approval status of these private schools not known.

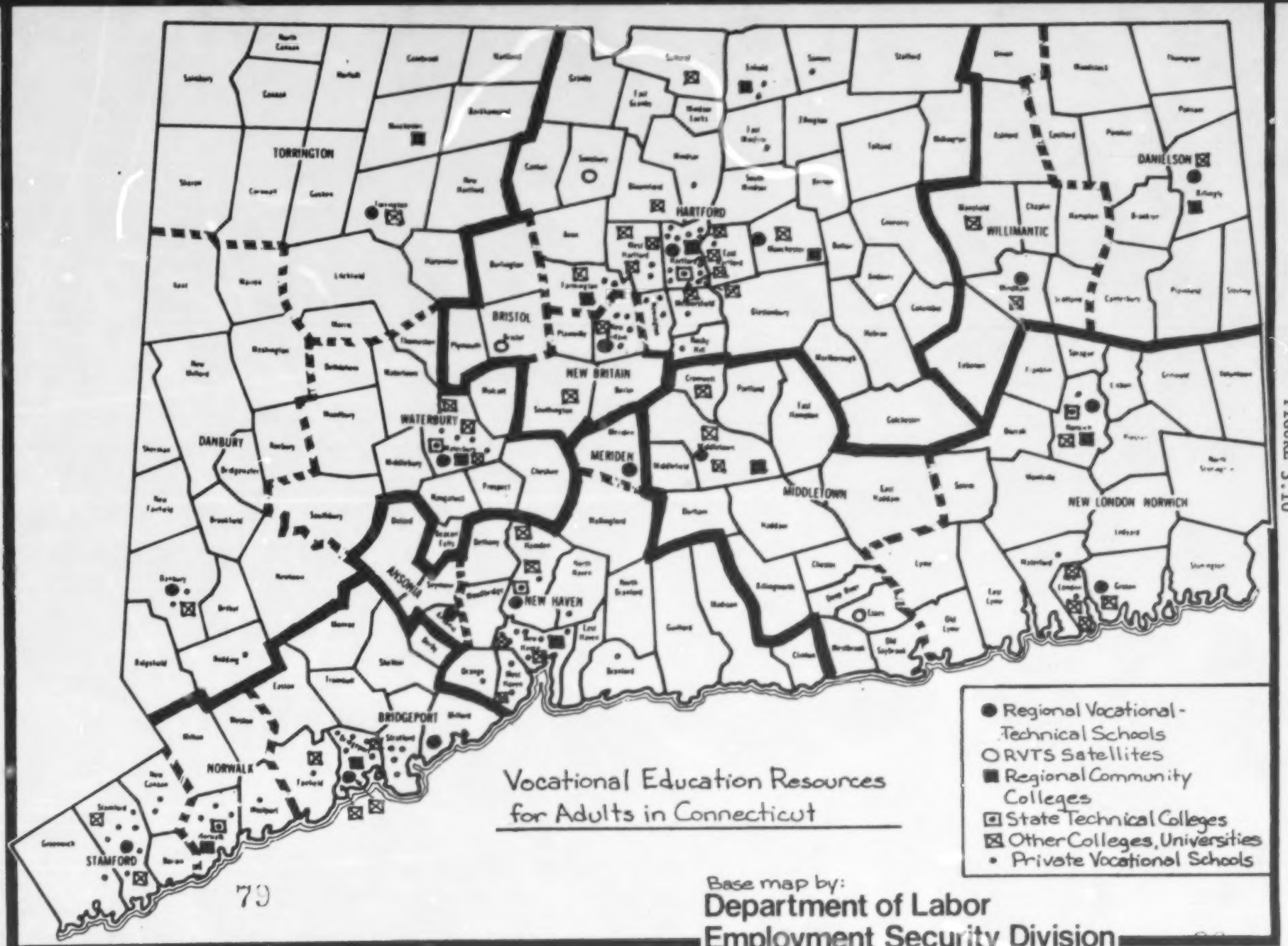


FIGURE 3.10

79

LM-41(1-79)

Danielson, Willimantic, Norwich and New London areas have lesser access to vocational education. Although the distances involved are not great, the needs of the adult student frequently call for educational opportunities located close to work or daycare, and any travel becomes an obstacle to partaking of the benefits of training.

Tables 3.19 and 3.20, which follow, summarize the availability of vocational programs for adults in each of the six study regions. Again, the variety of programs available to the adult student in the Danielson-Willimantic area or the Torrington-Danbury-Waterbury region is much more limited than in other parts of the State.

2. Participation in Adult Vocational Education

Table 3.21 provides data on enrollments in secondary and post-secondary schools, including vocational-technical schools. In 1978, about 20,000 adults were enrolled in vocational and technical programs, approximately 1 percent of the adult population. No figures are available on participation in local adult education programs in Connecticut. National figures for adults in 1978* were 11.8 percent in adult education, 7.5 percent full-time high school or college students, and 0.9 percent full-time vocational students. Participation rates are much higher for White, non-Hispanic adults than for minority group members, and rates for females are somewhat higher than for males. Of those participating in adult education, 38.9 percent did so to advance in their current jobs and 10.5 percent to get new jobs.

*National Center for Education Statistics. The Condition of Education 1980 Edition. Washington D.C.: Superintendent of Documents, USGPO, 1980.

TABLE 3.19

CONNECTICUT VOCATIONAL-TECHNICAL EDUCATION
Numbers of Programs by Type
of Institution and Labor Market (1978 data)

LABOR MARKET AREA/INSTITUTION TYPE	Accounting	Aeronautics	Agriculture	Air Cond/Ref/ Heating	Animal Sci.	Applied Sci.	Art (Fine)	Art (Commercial)	Auto Body	Auto Mech.	Aviation Mech.	Baking	Banking	Bar Mgmt.	Barbering	Bartending	Bookkeeping
HARTFORD, BRISTOL, NEW BRITAIN																	
State Reg. Voc. Tech.				1					1	3					1	1	
State College and University	4							1				1	1				
Approved Private Occup.	1			1						3							1
Private/Indep. Colleges	1																
Total	6	-	-	2	-	-	-	1	1	6	-	1	1	-	1	1	1
DANIELSON, WILLIMANTIC																	
State Reg. Voc. Tech.									1	2	1						
State College and University	1										1						
Approved Private Occup.																	
Private/Indep. Colleges																	
Total	1	-	-	-	-	-	-	-	1	2	2	-	-	-	-	-	-
NEW HAVEN, ANSONIA, MERIDEN																	
State Reg. Voc. Tech.				1					1	3							
State College and University	1																
Approved Private Occup.	1			1			1	1	1	1			1	1		2	
Private/Indep. Colleges	1	1															
Total	3	1	-	2	-	-	1	1	1	1	-	-	1	1	-	2	-

TABLE 3.19 (Continued)
Numbers of Programs by Type of Institution
and Labor Market (1978 data)

LABOR MARKET / AREA/INSTITUTION / TYPE	Accounting	Aeronautics	Agriculture	Air Con/Ref/ Heating	Animal Sci.	Applied Sci.	Art (Fine)	Art (Commerical)	Auto Body	Auto Mech.	Aviation Mech.	Baking	Banking	Bar Mgmt.	Barbering	Bartending	Bookkeeping
NORWICH, NEW LONDON, MIDDLETOWN																	
State Reg. Voc. Tech.				2					2	1							
State College and University	3		1				1										
Approved Private Occup.	1																1
Private/Indep. Colleges		1															
Total	4	1	1	2	-	-	1	-	2	1	-	-	-	-	-	-	1
STAMFORD, NORWALK, BRIDGEPORT																	
State Reg. Voc. Tech.				1					2	2		1			1		
State College and University	2																
Approved Private Occup.	3						2	2		1						1	2
Private/Indep. Colleges							1										
Total	5	-	-	1	-	-	3	2	2	3	-	1	-	-	1	1	2
TORRINGTON, DANBURY, WATERBURY																	
State Reg. Voc. Tech.				1					2	3	1						
State College and University	1																
Approved Private Occup.	1									1							1
Private/Indep. Colleges																	
Total	2	-	-	1	-	-	-	-	2	4	1	-	-	-	-	-	1
STATE TOTAL	21	2	1	7	-	-	5	4	9	17	3	2	2	1	2	4	5

TABLE 3.19 (Continued)
Numbers of Programs by Type of Institution and Labor Market (1978 data)

LABOR MARKET / AREA/INSTITUTION / TYPE	Broadcasting	Business Gen'l.	Bus. Adm./Mgt.	Carpentry	Civil Service	Clerk, Gen'l Off.	Clerk, Legal	Clerk, Medical	Clerk, Off. Mach.	Clerk Typist	Communications	Computer Oper.	Computer Programmer	Constru. Estimate	Correctional Serv.	Cosmetology	Counseling (Drug & Alcohol Rehab.)
HARTFORD, BRISTOL, NEW BRITAIN																	
State Reg. Voc. Tech.				3												2	
State College and University	1		4							1	1		2		2		1
Approved Private Occup.						1						2	3				
Private/Indep. Colleges										1							
Total	1	-	4	3	-	1	-	-	-	2	1	2	5	-	2	2	1
DANIELSON, WILLIAMANTIC																	
State Reg. Voc. Tech.				2												1	
State College and University																	
Approved Private Occup.																	
Private/Indep. Colleges																	
Total	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	1	-
NEW HAVEN, ANSONIA, MERIDEN																	
State Reg. Voc. Tech.		1		3												2	
State College and University																	1
Approved Private Occup.			2								1	1					
Total	-	1	2	3	-	-	-	-	-	-	1	1	-	-	-	2	1

TABLE 3.19 (Continued)
Numbers of Programs by Type of Institution and Labor Market (1978 data)

LABOR MARKET / AREA/INSTITUTION / TYPE	Broadcasting	Business Gen'l.	Bus. Adm./Mgt.	Carpentry	Civil Service	Clerk, Gen'l Off.	Clerk, Legal	Clerk, Medical	Clerk, Off. Mach.	Clerk Typist	Communications	Computer Oper.	Computer Programmer	Constru. Estimate	Correctional Serv.	Cosmetology	Counseling (Drug & Alcohol Rehab.)
NORWICH, NEW LONDON, MIDDLETOWN																	
State Reg. Voc. Tech.				2												1	
State College and University			3							1							
Approved Private Occup.			1			1											1
Private/Indep. Colleges			1														
Total	-	-	5	2	-	1	-	-	-	1	-	-	-	-	-	1	1
STAMFORD, NORWALK, BRIDGEPORT																	
State Reg. Voc. Tech.				2												3	
State College and University		1	1														
Approved Private Occup.	1		2			1	1	1		2			1	1			
Private/Indep. Colleges		1															
Total	1	2	3	2	-	1	1	1	-	2	-	-	1	1	-	3	-
TORRINGTON, DANBURY, WATERBURY																	
State Reg. Voc. Tech.				3												3	
State College and University			1														1
Approved Private Occup.																	
Private/Indep. Colleges																	
Total	-	-	1	3	-	-	-	-	-	-	-	-	-	-	-	3	1
STATE TOTAL	2	3	15	15	-	3	1	1	-	5	2	3	6	1	2	12	4

TABLE 3.19 (Continued)
Numbers of Programs by Type of Institution and Labor Market (1978 data)

LABOR MARKET / AREA/INSTITUTION / TYPE	Court Reptg. Steno	Cytotechnology (Med Lab Tech)	Dance	Data Processing	Dental Asst.	Dental Hygienist	Dental Lab Tech	Diesel Mech	Dog Grooming	Drafting	Drafting Archit.	Drafting, Electro.	Drafting, Indust.	Drafting, Mach. Mech.	Drama	Educ., Early Child.	Educ., Special
HARTFORD, BRISTOL, NEW BRITAIN																	
State Reg. Voc. Tech.					1						1			3			
State College and University		1		3	1	1										2	1
Approved Private Occup.	2		1	2							2	2		2			
Private/Indep. Colleges				1	1												
Total	2	1	1	6	3	1	-	-	-	-	3	2	-	5	-	2	1
DANIELSON, WILLIMANTIC																	
State Reg. Voc. Tech.					1						2			2			
State College and University																	
Approved Private Occup.																	
Private/Indep. Colleges																	
Total	-	-	-	-	1	-	-	-	-	-	2	-	-	2	-	-	-
NEW HAVEN, ANSONIA, MERIDEN																	
State Reg. Voc. Tech.					1		1			1				2			
State College and University				2												1	
Approved Private Occup.	1							1		1	1						
Private/Indep. Colleges		1		1													
Total	1	1	-	3	1	-	1	1	-	2	1	-	-	2	-	1	

TABLE 3.19 (Continued)
Numbers of Programs by Type of Institution and Labor Market (1978 data)

LABOR MARKET / AREA/INSTITUTION / TYPE	Court Reptg. Steno	Cytotechnology (Med Lab Tech)	Dance	Data Processing	Dental Asst.	Dental Hygienist	Dental Lab Tech	Diesel Mech.	Dog Grooming	Drafting	Drafting Archit.	Drafting, Electro.	Drafting, Indus.	Drafting, Mach. Mech.	Drama	Educ., Early Child	Educ., Special
NORWICH, NEW LONDON, MIDDLETOWN																	
State Reg. Voc. Tech.														2			
State College and University				2							1			1			
Approved Private Occup.	1				1												
Private/Indep. Colleges																	
Total	1	-	-	2	1	-	-	-	-	-	1	-	-	3	-	-	-
STAMFORD, NORWALK, BRIDGEPORT																	
State Reg. Voc. Tech.					1					1	2			2			
State College and University		1		1												1	
Approved Private Occup.	1			2	1		1		1		2	1		1			
Private/Indep. Colleges						1											
Total	1	1	-	3	2	1	1	-	1	1	4	1	-	3	-	1	
TORRINGTON, DANBURY, WATERBURY																	
State Reg. Voc. Tech.														2			
State College and University				1									1			1	
Approved Private Occup.											1	1		1		1	
Private/Indep. Colleges																	
Total				1							1	1	1	3		2	
STATE TOTAL	5	3	1	15	8	2	2	1	1	3	12	4	1	18	-	7	2

III-60

TABLE 3.19 (Continued)
Numbers of Programs by Type of Institution and Labor Market (1978 data)

LABOR MARKET / AREA/INSTITUTION / TYPE	Educ. Asst.	Electrical Electrician	Electronics	Engineering	Engrg. Archit.	Engrg. Chemical	Engrg. Civil	Engrg. Electrical	Engrg. Electro-mechanical	Engrg. Electronic	Engrg. Indus. Mfg.	Engrg. Material	Engrg. Mech.	Engrg. Metallurgy	Environ. Science	Fashion Design	Fashion Illus.
HARTFORD, BRISTO , NEW BRITAIN															1	2	
State Reg. Voc. Tech.		3	3														
State College and University	1				1	1	1	1			1		1				
Approved Private Occup.			1		2		2			2			2				
Private Indep. Colleges			1						1								
Total	1	3	5		3	1	3	1	1	2	1		3		1	2	
DANIELSON, WILLIMANTIC																	
State Reg. Voc. Tech.		2	2														
State College and University																	
Approved Private Occup.																	
Private Indep. Colleges																	
Total		2	2														
NEW HAVEN, ANSONIA, MERIDEN																	
State Reg. Voc. Tech.		3	3													1	
State College and University	1		1					1			1		1				
Approved Private Occup.			2														
Private Indep. Colleges				1			1	1			1		1	1	1	1	
Total	1	3	6	1			1	2			2		2	1	1	2	

TABLE 3.19 (Continued)
Numbers of Programs by Type of Institution
and Labor Market (1978 data)

LABOR MARKET / AREA/INSTITUTION / TYPE	Educ. Asst.	Electrical Electrician	Electronics	Engineering	Engrg. Archit.	Engrg. Chemical	Engrg. Civil	Engrg. Electrical	Engrg. Electro-mechanical	Engrg. Electronic	Engrg. Indus. Mfg.	Engrg. Material	Engrg. Mech.	Engrg. Metallurgy	Environ. Science	Fashion Design	Fashion Illus.
NORWICH, NEW LONDON, MIDDLETOWN																	
State Reg. Voc. Tech.		2	1														
State College and University						1		1			1		1		1		
Approved Private Occup.																	
Private/Indep. Colleges				1													
Total		2	1	1		1		1			1		1		1		
STAMFORD, NORWALK, BRIDGEPORT																	
State Reg. Voc. Tech.		3	3						1							2	
State College and University					1	1		1	1		1	1	1		1		
Approved Private Occup.					1		1	1		1			1	1			1
Private/Indep. Colleges																	
Total		3	3		2	1	1	2	2	1	1	1	2	1	1	2	1
TORRINGTON, DANBURY, WATERBURY																	
State Reg. Voc. Tech.		3	3													1	
State College and University						1		1			1		1		1		
Approved Private Occup.					1		1			1			1				
Private/Indep. Colleges																	
Total		3	3		1	1	1	1		1	1		2		1	1	
STATE TOTAL	2	16	21	2	6	4	6	6	3	4	5	1	10	2	5	7	1

TABLE 3.19 (Continued)
Numbers of Programs by Type of Institution and Labor Market (1978 data)

LABOR MARKET / AREA/INSTITUTION / TYPE	Fashion Merch.	Finance	Fire Tech.	Flight Instr.	Floral Design Floriculture	Food Service	Gerontology	Gov't. Services	Graphics	Health Service	Hotel/Rest. Mgmt.	Human Service	Indust. Mgmt.	Insurance	Interior Design	Invest/Security	Jewelry Arts
HARTFORD, BRISTOL, NEW BRITAIN																	
State Reg. Voc. Tech.						1			1								
State College and University		1	1	1		1			1		1	2				1	
Approved Private Occup.	1														1	1	
Private/Indep. Colleges																	
Total	1	1	1	1		2			2		1	2			1	2	
DANIELSON, WILLIMANTIC																	
State Reg. Voc. Tech.																	
State College and University																	
Approved Private Occup.																	
Private/Indep. Colleges																	
Total																	
NEW HAVEN, ANSONIA, MERIDEN																	
State Reg. Voc. Tech.						1			2	1							
State College and University						1						1	1	1			
Approved Private Occup.	1													1	1		
Private/Indep. Colleges									1		1			1	1		
Total	1					2			3	1	1	1	1	3	2		

TABLE 3.19 (Continued)
Numbers of Programs by Type of Institution
and Labor Market (1978 data)

LABOR MARKET / AREA/INSTITUTION / TYPE	Fashion Merch.	Finance	Fire Tech.	Flight Instr.	Floral Design Floriculture	Food Service	Gerontology	Gov't. Services	Graphics	Health Service	Hotel/Rest. Mgmt.	Human Service	Indust. Mgmt.	Insurance	Interior Design	Invest/Security	Jewelry Arts
NORWICH, NEW LONDON, MIDDLETOWN																	
State Reg. Voc. Tech.						1			1								
State College and University								1					1				
Approved Private Occup.																	
Private/Indep. Colleges																	
Total						1		1	1	1			1				
STAMFORD, NORWALK, BRIDGEPORT																	
State Reg. Voc. Tech.						2			1	1							
State College and University												1					
Approved Private Occup.						1					1		1				1
Private/Indep. Colleges	1						1										
Total	1					3	1		1	1	1	1	1				1
TORRINGTON, DANBURY, WATERBURY																	
State Reg. Voc. Tech.									1								
State College and University			1										1				
Approved Private Occup.	1				1										1		
Total	1		1		1				1				1		1		
STATE TOTAL	4	1	2	1	1	8	1	1	8	3	3	4	4	3	4	2	1

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TABLE 3.19 (Continued)
Numbers of Programs by Type of Institution and Labor Market (1978 data)

LABOR MARKET / AREA/INSTITUTION / TYPE	Journalism	Keypunching	Labor Studies	Law Enforce.	Legal Asst.	Library Sci.	Machine Shop	Machine/Tool/Die	Major Appliance	Manicuring	Mfg.	Marine Sci.	Marketing	Masonry	Meat Cutting	Medical Asst.	Mental Health
HARTFORD, BRISTOL, NEW BRITAIN																	
State Reg. Voc. Tech.								3						1			
State College and University				2	1								4			1	
Approved Private Occup.		2					1						1		1		
Private/Indep. Colleges																1	
Total		2		2	1		1	3					5	1	1	2	
DANIELSON, WILLIMANTIC																	
State Reg. Voc. Tech.								2	1					1			
State College and University																	
Approved Private Occup.																	
Private/Indep. Colleges					1												
Total					1			2	1					1			
NEW HAVEN, ANSONIA, MERIDEN																	
State Reg. Voc. Tech.								3									
State College and University					1												
Approved Private Occup.								1									
Private/Indep. Colleges	1															1	
Total	1				1			4								1	

III-65

TABLE 3.19 (Continued)
Numbers of Programs by Type of Institution and Labor Market (1978 data)

LABOR MARKET / AREA/INSTITUTION / TYPE	Journalism	Keypunching	Labor Studies	Law Enforce.	Legal Asst.	Library Sci.	Machine Shop	Machine/Tool/Die	Major Appliance	Manicuring	Mfg.	Marine Sci.	Marketing	Masonry	Meat Cutting	Medical Asst.	Mental Health
NORWICH, NEW LONDON, MIDDLETOWN																	
State Reg. Voc. Tech.								2									
State College and University				2									3			1	2
Approved Private Occup.																	1
Private/Indep. Colleges												1					
Total				2				2				1	3			1	3
STAMFORD, NORWALK, BRIDGEPORT																	
State Reg. Voc. Tech.								2						1			
State College and University			1	2									1				
Approved Private Occup.		3						1			1						
Private/Indep. Colleges																	1
Total		3	1	2				3			1		1	1			1
TORRINGTON, DANBURY, WATERBURY																	
State Reg. Voc. Tech.								4	1								
State College and University						1							1				
Approved Private Occup.					1												
Private/Indep. Colleges																	
Total					1	1		4	1				1				
STATE TOTAL	1	5	1	6	4	1	1	18	2		1	1	10	3	1	4	4

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TABLE 3.19 (Continued)
Numbers of Programs by Type of Institution and Labor Market (1978 data)

LABOR MARKET AREA/INSTITUTION TYPE	Modeling	Music	Nurse Anesth.	Nurse, Prac.	Nurse, Regis.	Nursery Mgr.	Nurse's Aide	Occup. Safety	Painting & Deco.	PBX Switch.	Pharmacy	Photography	Plumbing	Printing	Pub. Admin. Serv.	Purchasing	Radiology Tech.
HARTFORD, BRISTOL, NEW BRITAIN																	
State Reg. Voc. Tech.				2									2	1			
State College and University					1										1		
Approved Private Occup.	3																
Private/Indep. Colleges																1	
Total	3			2	1								2	1	1	1	
DANIELSON, WILLIMANTIC																	
State Reg. Voc. Tech.				1													
State College and University																	
Approved Private Occup.																	
Private/Indep. Colleges																	
Total				1													
NEW HAVEN, ANSONIA, MERIDEN																	
State Reg.Voc. Tech.				1									2				
State College and University																	1
Approved Private Occup.	1											1	1				
Private/Indep. Colleges					1			1							1		1
Total	1			1	1			1				1	3		1		2

TABLE 3.19 (Continued)
Numbers of Programs by Type of Institution and Labor Market (1978 data)

LABOR MARKET / AREA/INSTITUTION / TYPE	Modeling	Music	Nurse Anesth.	Nurse, Prac.	Nurse, Regis.	Nursery Mgr.	Nurse's Aide	Occup. Safety	Painting & Deco.	PBX Switch.	Pharmacy	Photography	Plumbing	Printing	Pub. Admin. Serv.	Purchasing	Radiology Tech.
NORWICH, NEW LONDON, MIDDLETOWN																	
State Reg. Voc. Tech.				1									1				
State College and University					2												2
Approved Private Occup.																	
Private/Indep. Colleges																	
Total				1	2								1				2
STAMFORD, NORWALK, BRIDGEPORT																	
State Reg. Voc.Tech.				2					1				2	1			
State College and University								1									
Approved Private Occup.									1	1		1					
Private/Indep. Colleges																	
Total				2				1	2	1		1	2	1			
TORRINGTON, DANBURY, WATERBURY																	
State Reg.Voc. Tech.				2									2				
State College and University															1		
Approved Private Occup.																	
Private/Indep. Colleges																	
Total				2									2		1		
STATE TOTAL	4			9	4			2	2	1		2	10	2	3	1	4

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TABLE 3.19 (Continued)
Numbers of Programs by Type of Institution and Labor Market (1978 data)

LABOR MARKET / AREA/INSTITUTION / TYPE	Real Estate	Receptionist	Recreation/PE	Respiratory Therapy	Secretary	Secy. Bilingual	Secy. Broadcasting	Secy. Executive	Secy. Legal	Secy. Medical	Secy. Travel Agency	Secy. Word Processor	Sheet Metal	Social Service	Stenography	Surgical Tech.	Tax Prep.
HARTFORD, BRISTOL, NEW BRITAIN																	
State Reg. Voc. Tech.													1				
State College and University	6			1	5	1		5	4	3		1		1	1		
Approved Private Occup.	1		1		2	1		2	2	2		1			1		1
Private/Indep. Colleges	1				1			1	1	1							
Total	8		1	1	8	2		8	7	6		2	1	1	2		1
DANIELSON, WILLIMANTIC																	
State Reg. Voc. Tech																	
State College and University	2																
Approved Private Occup.																	
Private/Indep. Colleges																	
Total	2																
NEW HAVEN, ANSONIA, MERIDEN																	
State Reg. Voc. Tech.													2				
State College and University	2					1		1	1	1							
Approved Private Occup.	2				2			2	2	2							
Private/Indep. Colleges	2			1													
Total	6			1	2	1		3	3	3			2				

TABLE 3.19 (Continued)
Numbers of Programs by Type of Institution and Labor Market (1978 data)

LABOR MARKET / AREA/INSTITUTION / TYPE	Real Estate	Receptionist	Recreation/PE	Respiratory Therapy	Secretary	Secy. Bilingual	Secy. Broadcasting	Secy. Executive	Secy. Legal	Secy. Medical	Secy. Travel Agency	Secy. Word Processor	Sheet Metal	Social Service	Stenography	Surgical Tech.	Tax Prep.
NORWICH, NEW LONDON, MIDDLETOWN																	
State Reg. Voc. Tech.													1				
State College and Universities	4				2			1	1	1				1	1		
Approved Private Occup.					1			1	2	2	1				1		
Private/Indep. Colleges			1					1						1			
Total	4		1		3			3	3	3	1		1	2	2		
STAMFORD, NORWALK, BRIDGEPORT																	
State Reg. Voc. Tech.													1				
State College and Universities	3		1		2												
Approved Private Occup.	2				2			3	3	3		1			3		1
Private/Indep. Colleges	1							1	1	1		1					
Total	6		1		4			4	4	4		2	1		3		1
TORRINGTON, DANBURY, WATERBURY																	
State Reg. Voc. Tech.																	
State College and University	3		1		1												
Approved Private Occup.	1		1		1			1	1	1					1		
Private/Indep. Colleges																	
Total	4		2		2			1	1	1					1		
STATE TOTAL	30		5	2	19	3		19	18	17	1	4	5	3	8		2

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TABLE 3.19 (Continued)
Numbers of Programs by Type of Institution and Labor Market (1978 data)

LABOR MARKET / AREA/INSTITUTION / TYPE	Television, Cable	Television, Serv.	Therapy, Occup.	Therapy, Physical	Tractor Trailer Driver	Transcription	Transportation Traffic Mgmt.	Travel Agent	Typing	Waiter/Waitress	Welding	Writing	Yachting/Small Craft Design	Surveying & Mapping	Child Care
HARTFORD, BRISTOL, NEW BRITAIN															
State Reg. Voc. Tech.											1				
State College and University			1			2									
Approved Private Occup.					2			1	1						
Private/Indep. Colleges							1	1							
Total			1		2	2	1	2	1		1				
DANIELSON, WILLIMANTIC															
State Reg. Voc. Tech.															
State College and University															
Approved Private Occup.															
Private/Indep. Colleges															
Total															
NEW HAVEN, ANSONIA, MERIDEN															
State Reg. Voc. Tech.											2				
State College and University															
Approved Private Occup.								3			1				
Private/Indep. Colleges								1							
Total								4			3				

TABLE 3.19 (Continued)
Numbers of Programs by Type of Institution and Labor Market (1978 data)

LABOR MARKET AREA/INSTITUTION TYPE	Television, Cable	Television, Serv.	Therapy, Occup.	Therapy, Physical	Tractor Trailer Driver	Transcription	Transportation Traffic Mgmt.	Travel Agent	Typing	Waiter/Waitress	Welding	Writing	Yachting/Small Craft Design	Surveying & Mapping	Child Care
NORWICH, NEW LONDON, MIDDLETOWN															
State Reg. Voc. Tech.											1				
State College and University	1														
Approved Private Occup.											1				
Private/Indep. Colleges															
Total	1										2				
STAMFORD, NORWALK, BRIDGEPORT															
State Reg. Voc. Tech.											2				
State College and University															
Approved Private Occup.					1	1		2	2		1	1	1		
Private/Indep. Colleges															
Total					1	1		2	2		3	1	1		
TORRINGTON, DANBURY, WATERBURY															
State Reg. Voc. Tech.															
State College and University															
Approved Private Occup.								2	1			1			
Private/Indep. Colleges															
Total								2	1						
STATE TOTAL	1		1		3	3	1	10	4		9	2	1		

TABLE 3.20

ADULT VOCATIONAL EDUCATION PROGRAMS AT LOCAL HIGH SCHOOLS

Courses/Programs Offered	Hartford-Bristol-New Britain Area	Danielson-Willimantic Area	New Haven-Ansonia-Meriden Area	Norwich-New London-Middletown Area	Stamford-Norwalk-Bridgeport Area	Torrington-Danbury-Waterbury Area
Accounting/Bookkeeping	4	-	2	3	1	3
Appliance repair	-	-	1	-	-	-
Auto Mechanics	5	1	2	1	2	-
Baking	-	-	2	-	-	-
Blueprint Reading	1	-	-	-	-	-
Business Administration/ Management	-	-	1	-	-	-
Carpentry	-	-	-	1	-	-
Child Care/Guidance	-	-	1	-	-	-
Clerical	-	-	2	-	1	-
Computer Operator	1	-	-	-	-	-
Computer Programmer	2	-	-	-	-	-
Data Processing/ Computer Science	-	-	1	-	1	-
Drafting	1	-	1	-	-	-
Dressmaking/Sewing	-	-	2	-	-	-
Electrical Wiring	-	-	-	1	-	-
Electronics Assembly	-	-	-	-	1	-
Family Health	-	-	1	-	-	-
Food and Nutrition	-	-	1	-	-	-
Food Service	-	-	-	-	1	-
Furniture Repair	1	-	-	1	-	-
Industrial Arts	-	-	1	-	-	-
Machine Operator	-	-	-	-	1	-
Metals	-	-	1	-	-	-
Nurse Assistant/Aide	-	-	1	1	-	-
Office Machines	1	-	1	1	-	1
Shorthand	2	-	2	1	-	2
Small Animals	-	1	-	-	-	-
Stenography	4	-	1	1	1	-
Typing	5	-	2	3	1	2
Welding	-	1	-	1	-	-
Wood Technology/ Woodwork	3	-	2	2	1	-
Miscellaneous	5	1	1	1	-	-

Source: Data provided by 22 secondary schools responding to 1981 survey by BVPPD/DVAE.

TABLE 3.21

ADULT SCHOOL POPULATION, 1979-80

Full-time day post-secondary and adult Vocational Technical Schools (RVTS)	923
Short-term adult and post-secondary vocational programs in RVTSs	2,694
Apprenticeship and part-time trade training provided in RVTSs	3,352
State Technical Colleges	5,926
Enrollment in 8 largest proprietary vocational-technical schools (1977-78)	7,782
Regional community colleges (1977-78)	29,666
Full-time	(10,744)
Part-time	(18,922)
Vocational rehabilitation (1977-78)	16,117

Not included in Table 3.21 are those adults who participated in industry-sponsored training programs. Twenty-seven such programs were offered in 1979-80 by the State, and 539 adults (22.4 percent female, 20.4 percent Black and 9.3 percent Hispanic) completed these short-term training programs, most with excellent employment prospects with the State's major employers. Eight programs included pre-vocational and support services to interest women in machine/tool training. Female enrollment in these offerings averaged 36.7 percent.

Of those attending Regional Vocational-Technical Schools in Connecticut, 49.1 percent of the full-time students in 1979-80 were female. However, only 5.1 percent of the apprentices receiving State-supported training were women. More telling are the figures for applications to long-term RVTS programs. In 1979, 1,287 adults (almost entirely female) applied for admission to practical nursing programs. Another 962 adults applied for admission to all other long-term RVTS programs. While 65.9 percent of the latter group was accepted, only 22.1 percent of the LPN applicants were. Over 1,000 women who had applied for admission to an LPN program could not be accommodated in the program of their choice, and therefore received no vocational training in most cases.

3. Labor Demand and Supply

"Employment Opportunities Related to Vocational Education Programs - Labor Demand and Supply Summary," prepared by the Department of Labor to compare projected vocational education graduates and labor needs of the State through 1985, is reproduced here as Table 3.22.*

Caution should be taken in reviewing Table 3.22. The "Demand Minus Supply" figures must be interpreted in light of what else is known about

*Connecticut Labor Department. Annual Report on State Occupational Requirements for Vocational Education Fiscal Years 1981-1985. Hartford: Labor Department, 1980.

TABLE 3.22

Employment Opportunities Related to Vocational Education Programs *

Labor Demand and Supply Summary

The purpose of this table is to provide the Division of Vocational Education with employment opportunities data which will be helpful in program planning. Most of the data presented have been obtained from the Employment Security Division of the Connecticut Labor Department's Annual Report on State Occupational Requirements For Vocational Education Fiscal Years 1981-1985. Included in Appendix C is the Labor Department's description of the methodologies, assumptions and limitations of the data in the report. It is suggested that this description be read when utilizing this information.

Column Explanation

OE Code and Instructional Program

This represents the Unites States Office of Education (U.S.O.E.) codes and instructional titles for the vocational program areas.

Average Current Employment FY 1980

Connecticut Labor Department 1980 estimated annual average employment by program area.

Projected Labor Demand FY 1981 and 1985

The Labor Department's projections for labor demand by program areas for FY 1981 and a cumulative five-year figure for FY 1985 are based on assumptions included in the Labor Department's report which is in Appendix C.

Projected Labor Supply

The "Vocational Education Output FY 1981 and FY 1985" reflects students' completion data from the 1978 Graduate Follow-Up Report which includes graduates of vocational education programs in regional high schools, vocational - technical schools, community colleges and other school agencies. "Other Sectors Output FY 1981 and FY 1985" represents the number of students completing programs which are administrated by the Labor Department, the Technical College system and the private schools which are approved by the Bureau of Community and Adult Education.

*Reproduced from Connecticut Labor Department. Annual Report on State Occupational Requirements for Vocational Education Fiscal Years 1981-1985. Hartford: Labor Department, 1980.

EMPLOYMENT OPPORTUNITIES RELATED TO VOCATIONAL EDUCATION PROGRAMS

LABOR DEMAND AND SUPPLY SUMMARY

OE CODE	Instructional Program	Average Current Employment FY 1980	Projected Labor Demand FY 1981	Projected Labor Demand FY 1985 //	Projected Labor Supply(1) Vocational Educ. Output *** FY 1981	Projected Labor Supply(1) Vocational Educ. Output *** FY 1985	Projected Labor Supply(2) Other Sectors Output # FY 1981	Projected Labor Supply(2) Other Sectors Output # FY 1985	(Demand Minus Supply) FY 1981	(Demand Minus Supply) FY 1985 //
	TOTAL	1,053,030	47,310	246,370	17,998	89,990	**	**	**	**
01	AGRICULTURE	21,670	1,050	3,360	313	1,565	**	**	**	**
01.0100	Agricultural Production	9,050	340	70	125	625	**	**	**	**
01.0200	Agricultural Supplies	700	20	80	10	50	**	**	**	**
01.0300	Agricultural Mechanics	640	20	130	52	260	**	**	**	**
01.0400	Agricultural Products	120	10	50	11	55	**	**	**	**
01.0500	Horticulture	10,390	620	2,900	78	390	*	20	**	2,490
01.0600	Agricultural Resources									
01.0700	and Forestry	770	40	130	37	185	**	**	**	**
04	DISTRIBUTIVE	140,890	6,300	33,870	1,495	7,475				
04.0100	Advertising Services	4,230	190	1,050	0	0	90	430	+100	+620
04.0200	Apparel and General Merchandise	86,790	3,970	21,000	1,408	7,040	740	3,690	+1,822	+10,350
04.0300	Automotive	380	20	70	0	0				
04.0400	Finance and Credit	11,490	610	3,560	0	0	90	430	520	3,130
04.0500	Floristry	1,160	50	250	0	0	**	**	**	**
04.0600	Food Distribution	13,210	370	1,940	0	0	**	**	**	**
04.0700	Food Services	9,040	340	1,660	0	0	40	220	+300	+1,440
04.1100	Hotel and Lodging	2,490	220	1,060	31	155	20	100	+169	+ 805
04.1200	Industrial Marketing	1,030	30	150	53	265	10	40	- 33	- 155
04.1300	Insurance	10,440	480	2,910	0	0	*	10		+2,900
04.1500	Personal Services	630	20	140	0	0	**	**	**	**
04.1900	Transportation				3	15				

OE CODE	Instructional Program	Average Current Employment FY 1980	Projected Labor Demand FY 1981	Projected Labor Demand FY 1985 #	Projected Labor Supply(1) Vocational Educ. Output *** FY 1981	Projected Labor Supply(1) Vocational Educ. Output *** FY 1985	Projected Labor Supply(2) Other Sectors Output # FY 1981	Projected Labor Supply(2) Other Sectors Output # FY 1985	(Demand Minus Supply) FY 1981	(Demand Minus Supply) FY 1985 #
14	OFFICE EDUCATION	271,650	13,400	71,520	7,605	38,425	**	**	**	**
14.0100	Bookkeeping, Accounting	55,190	2,470	12,880	2,169	10,845	268	1,360	33	675
14.0200	Data Processing and Computer Operation	8,320	270	1,620	154	770	186	940	-70	-90
14.0300	Filing, Office Machine and General Office	45,780	2,860	15,300	13	65	360	1,780	2,487	13,455
14.0400	Information Communications	24,430	990	5,360	0	0	250	1,250	740	4,110
14.0450	Library Technical Aides	2,440	90	460	3	15	17	75	70	370
14.0500	Material Support	24,790	1,020	5,390	0	0	30	130	990	5,260
14.0600	Personnel Training	11,940	480	2,590	0	0	20	100	460	2,490
14.0601	Education Associates	3,360	70	390	8	40	0	0	62	350
14.0700	Secretarial & Stenographers	62,470	3,760	19,910	1,590	7,950	1,487	7,425	683	4,535
14.0800	Supervisory & Administration	8,480	470	2,560	252	1,260	98	510	120	790
14.0900	Typing and Data Entry	24,450	920	5,060	3,496	17,480	690	3,480	-3,266	-15,900
16	TECHNOLOGY	46,440	1,520	8,190	175	875	**	**	**	**
16.0103	Architectural Technology	**	**	**			70	370	**	**
16.0105	Chemical Technology	3,620	130	650	0	0	50	240	80	410
16.0106	Civil Technology	950	50	210	0	0	20	110	30	100
16.0107	Elec. Electronic Technology	10,990	390	2,240	0	0	530	2,650	-140	-410
16.0110	Environmental Control Tech.	**	**	**			*	20	**	**
16.0111	Manufacturing, Industrial Tech.	4,060	200	1,100	0	0	60	300	140	800
16.0113	Mechanical Eng. & Tool Tech.	5,950	190	1,070	0	0	130	650	60	420
16.0115	Nuclear Technology	**	**	**			*	20	**	**
16.0117	Data Processing Technology	7,040	190	1,270	0	0	960	4,800	-770	-3,530
16.0196	Industrial Drafting Technology	**	**	**			30	150	**	**
16.0198	Surveying Technology	150	**	**			**	**	**	**
16.0601	Commercial Pilot Technology	1,250	10	80	0	0	*	20	10	60
16.0602	Fire Technology	4,490	70	290	0	0	40	180	30	110
16.0605	Police Science Technology	7,940	290	1,280	159	795	0	0	131	485
16.0699	Law Legal Assistant	**	**	**	16	80	24	140	**	**

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OE CODE	Instructional Program	Average Current Employment FY 1980	Projected Labor Demand FY 1981	Projected Labor Demand FY 1985 ##	Projected Labor Supply(1) Vocational Educ. Output *** FY 1981	Vocational Educ. Output *** FY 1985	Other Sectors(2) Output # FY 1981	Other Sectors(2) Output # FY 1985	(Demand Minus Supply) FY 1981	(Demand Minus Supply) FY 1985 #
07	HEALTH	65,850	3,470	18,350	1,986	9,930				
07.0101	Dental Assistants	2,180	130	630	56	280	60	320	14	30
07.0102	Dental Hygiene	1,440	120	600	24	120	0	0	96	480
07.0103	Dental Laboratory Technician	590	20	140	31	155	12	60	-23	-75
07.0203	Medical Laboratory Technician	2,220	80	460	47	235	60	310	-27	-85
07.0301	Nursing, Associate Degree	18,040	800	4,390	132	660	398	1,980	270	1,750
07.0302	Practical Nursing	9,370	690	3,680	497	2,485	10	350	183	845
07.0303	Nurses Aides	17,290	800	4,170	938	4,690	10	50	-148	-570
07.0305	Surgical Technology	7,400	430	2,230	21	105	0	0	409	2,125
07.0402	Occupational and Physical Therapy	2,900	150	870	23	115	97	475	30	280
07.0499	Recreational Therapy	**	**	**	**	**	30	140	**	**
07.0501	Radiologic Technology	1,550	80	380	37	185	73	345	-30	-150
07.0700	Environmental Health Technology	**	**	**	6	30	**	**	**	**
07.0799	Vocational and Occupational Health and Safety	**	**	**	8	40	**	**	**	**
07.0800	Mental Health Technician	**	**	**	28	140	**	**	**	**
07.0900	Animal Lab. Technician	**	**	**	57	285	**	**	**	**
07.0903	Inhalation Therapy	**	**	**	34	170	**	**	**	**
07.0904	Medical and Emergency Health Aide	2,750	160	770	0	0	130	630	30	140
07.0909	Mortuary Services	120	10	30			**	**	**	**
07.9900	Health Service Occupations	**	**	**	47	235	**	**	**	**
09	HOME ECONOMICS	15,140	730	3,440	673	3,365				
09.0201	Care and Guidance of Children	6,140	260	1,160	212	1,060	**	**	48	100
09.0202	Clothing Management	40	*	*	42	210	**	**	**	**
09.0203	Food Management	270	20	80	408	2,040	**	**	**	**
09.0204	Home Furnishings	**	**	**	9	45	**	**	**	**
09.0205	Institutional and Home Management	8,690	450	2,200	2	10	**	**	**	**

OE CODE	Instructional Program	Average Current Employment FY 1980	Projected Labor Demand FY 1981	Projected Labor Demand FY 1985 ##	Projected Labor Supply(1) Vocational Educ. Output *** FY 1981	Vocational Educ. Output *** FY 1985	Other Sectors(2) Output # FY 1981	Other Sectors(2) Output # FY 1985	(Demand Minus Supply) FY 1981	(Demand Minus Supply) FY 1985 #
17	TRADE AND INDUSTRIAL	491,390	20,840	107,640	5,671	28,355				
17.0100	Air Conditioning, Oil Burner Repair	3,680	190	1,040	76	380	140	720	-26	-60
17.0200	Appliance Repair	1,920	80	490	36	180	*	10	**	300
17.0201	Major Appliance Repair	**	**	**	128	640	**	**	**	**
17.0300	Auto Servicing	**	**	**	134	670	**	**	**	**
17.0301	Automotive Paint & Body	2,490	20	110	248	1,240	70	370	-298	-1,500
17.0302	Automobile Mechanics	14,090	320	1,530	322	1,610	240	1,220	-242	-1,300
17.0303	Mechanics and Other Specializations	190	10	40	0	0	40	220	-30	-180
17.0400	Aviation Mechanics & Avionics	3,750	100	700	29	145	80	380	-9	175
17.0700	Commercial Art	5,830	300	1,600	0	0	60	290	240	1,310
17.0900	Commercial Photography	2,680	90	560	0	0	10	30	80	530
17.1000	Building Maintenance, Other	1,680	80	360	20	100	10	30	50	230
17.1001	Carpentry	15,350	680	3,230	331	1,655	110	560	239	1,015
17.1002	Electrical	8,490	340	1,590	266	1,330	40	190	34	70
17.1003	Heavy Equipment	34,900	1,080	5,570	0	0	660	3,300	420	2,270
17.1004	Masonry	2,580	100	440	19	95	*	20	**	325
17.1005	Painting and Decorating	6,380	340	1,570	6	30	10	50	324	1,490
17.1007	Plumbing	6,650	340	1,640	124	620	280	1,410	-64	-390
17.1008	Building Construction, General	940	30	130	4	20	*	10	**	100
17.1099	Construction Maintenance	14,150	510	2,520	11	55	220	1,080	279	1,385
17.1100	Custodial Services	29,150	2,320	12,070	5	25	30	150	2,285	11,895
17.1300	Drafting Occupations	7,740	240	1,280	215	1,075	40	190	-15	15
17.1401	Electrical, Industrial	2,210	50	130	34	170	10	50	6	-90
17.1500	Industrial Electronics/Assembly	33,500	1,310	7,090	217	1,085	200	990	893	5,015
17.1601	Dry Cleaning and Laundry	3,590	130	710	9	45	*	10	**	655
17.1700	Supervisory and Management	29,940	1,100	5,820	0	0	**	**	**	**
17.1900	Printing, Graphic Arts & Comm.	7,310	200	1,100	199	995	40	190	-39	-85
17.2101	Mech. Inspection/Assembly/ Ind. Repair	1,620	120	650	31	155	10	60	79	435
17.2200	Maritime Operatives	790	50	280	0	0	**	**	**	**
17.2302	Machine Shop	61,000	2,260	11,730	531	2,655	670	3,330	1,059	5,745

OE CODE	Instructional Program	Average Current Employment FY 1980	Projected Labor Demand FY 1981	Projected Labor Demand FY 1985 //	Projected Labor Supply (1) Vocational Educ. Output *** FY 1981	Vocational Educ. Output *** FY 1985	Projected Labor Supply (2) Other Sectors Output # FY 1981	Other Sectors Output # FY 1985	(Demand Minus Supply) FY 1981	(Demand Minus Supply) FY 1985 #
17.2304	Ironworkers	520	20	110	0	0	**	**	**	**
17.2305	Sheet Metal Workers	4,330	120	680	56	280	30	160	34	240
17.2306	Welders	7,560	270	1,510	111	555	410	2,040	-251	-1,085
17.2307	Tool and Die	13,270	520	2,910	11	55	250	1,270	259	1,585
17.2399	Other Machine Occupations	5,010	160	840	0	0	10	30	150	810
17.2400	Metallurgy Occupations	870	10	50	0	0	**	**	**	**
17.2600	Barbering and Cosmetology	9,170	470	2,970	183	915	480	2,390	-193	-335
17.2700	Plastics Occupations	840	20	100	0	0	10	60	10	40
17.2802	Law Enforcement	7,610	580	2,760	0	0	*	10	**	2,750
17.2899	Public Service	300	20	100	13	65	**	**	**	**
17.2900	Food Trades except Baking	59,230	2,770	12,960	118	590	110	540	2,542	11,830
17.2901	Baking	2,380	70	440	4	20	10	30	56	390
17.2999	Bartending	3,560	230	1,080	0	0	220	1,000	10	80
17.3100	Small Engine Repair	**	**	**	117	585	**	**	**	**
17.3200	Stationary Energy Sources	3,440	110	560	0	0	*	10	**	550
17.3300	Textile Products & Fabrications	12,110	460	2,420	0	0	*	10	**	2,410
17.3301	Dressmaking	2,020	130	640	55	275	**	**	**	**
17.3500	Furniture Repair	900	30	190	0	0	10	60	20	130
17.3600	Woodworkers	2,000	60	370	0	0	10	50	50	320
17.9900	Remainder	53,590	2,400	12,970	2,008	10,040	30	150	362	2,780

(1) The "Projected Labor Supply" has been adjusted to avoid a duplicate count in the Community College and Technical College output.

(2) Information from some Connecticut Labor Department sources was not sufficient to enable a complete breakdown into Vocational Education Instructional areas; and as a result the detailed educational programs may not sum to general program levels.

* Fewer than 5.

** Data not available.

*** Includes only graduate data from vocational programs approved by the Division of Vocational Education (1978 Annual Follow-up of Vocational Graduates, Division of Vocational Education, State Department of Education).

\# Projected labor supply data were derived from existing Connecticut Labor Department training programs, Technical College Programs and Community College Programs (that are not formally approved by the Division), postsecondary proprietary school programs and CETA programs. The above labor supply and demand projections include only the listed sources. Any additional supply from other sources is not known.

\#\# FY 1985 data represent a cumulative five year figure for demand and supply, <u>not</u> just fiscal year 1985 data.

NOTE: "The above manpower demand and supply projections (from the Labor Department) should be viewed as median estimates under the stated economic assumptions on the bases of sampling error involved, it can be expected that the true value will fall within the range of ± 10% of the given value." (Connecticut Labor Department).

NOTE: <u>Annual Needs for Five-Year Plan</u> - Supply and demand projections for FY 1985 are based on cumulative annual averages for each year of the five-year period beginning with FY 1980. Average annual needs for any given year of the period may be derived by taking one-fifth of the FY 1985 cumulative projections. Average annual net differences (goals) may be derived in the same manner.

SOURCES

1. Input data from Annual Report on State Occupational Requirements for Vocational Education, Fiscal Years 1981-1985. Connecticut Labor Department, Employment Security Division.
"These projections should be viewed as indicators to the most probable outcome rather than forecasts. Efforts have been made to develop the most reliable data possible utilizing currently feasible techniques. However, if future circumstances differ significantly from those assumed, the manpower demand levels will vary from those indicated by this study. It should also be noted that these projections were adapted from estimates which in their original form covered the eleven year time span from 1974 to 1985."

2. Output data from the Connecticut Labor Department, the State Technical Colleges, the Bureau of Community and Adult Education, and the State Department of Education annual follow-up of vocational graduates.

the situation. In some cases, no data is available on the number of trained persons coming from other sectors. In other cases, training provided by vocational education could be applied to more than one occupation, or the job could be learned informally on the job. In addition, all of the cautions surrounding the use of projected job openings apply to these figures, which are derived from those.

A look at the rightmost column in Table 3.22, "Demand Minus Supply," shows the areas of greatest projected undersupply between now and 1985 to be these four occupations:

Filing, office machine and general office	13,455 slots
Custodial services	11,895 slots
Food trades, except baking	11,830 slots
Apparel and general merchandising	10,350 slots

All of these occupations can be entered, in some capacity, without specialized training. In each of them, though, a minimal amount of pre-employment training would give many job applicants a better chance of getting the job. These are low-skill entry-level jobs. From the point of view of the adult just entering the job market (or displaced from a prior occupation), the speed of entry may be quite appealing.

No other occupations compare to these in terms of the numbers of positions which will go begging for trained employees. However, the occupations in the next grouping require more training and represent opportunities for vocational education to help adults meet their employment goals.

Machine shop	5,745 slots
Material support (office)	5,260 slots

Industrial electronics/assembly	5,015 slots
Secretarial and stenographers	4,535 slots

These are the slots that will remain after approximately 23,500 slots are filled by the projected graduates of currently-planned public and private sector training programs.

On the other end of the scale are those occupations for which an oversupply is projected in the next five years.

The following unplaceable training graduates are projected:

Typing and data entry	15,900
Data processing technology	3,530
Automotive paint and body	1,500
Automotive mechanics	1,300
Welders	1,085

Typing skills can, of course, be utilized in a number of occupations other than typist. The projected oversupply is probably not the serious problem it appears to be, and probably represents secondary school students. (It should be noted that secondary school students whose only vocational training is in typing may soon be candidates for adult vocational education). The data processing technology (e.g., computer operators) is most likely an artifact of the projection methodology, as mentioned earlier. The rapid move to micro- and minicomputers and its effect on the long-term usefulness of vocational training in data processing pose other problems for those who would plan such programs. The last three occupations are traditional areas of vocational education which should be able to respond to the job market. Automotive mechanics

and welders are two occupations which are projected to grow over the next five years, but not enough to accommodate everyone who wants to study for them. There may possibly be some additional need for self-employed mechanics and body repairers which is not accounted for by the methods used to project employment openings.

4. Implications for Adult Vocational Education

Vocational program planners must be sensitive to intra-state variations in the demand for trained labor. Local planners must assess the Department of Labor projections for their area and consider them in light of area trends, location of new businesses, and the supply of skilled workers from secondary and private vocational schools. Especially when planning for adults, it is vital that training be directly related to employment opportunities.

From the statistics on adult participation in vocational education, it is clear that short-term, skill-improving programs for job promotions are at least as important as entry-level training for this population. Skill development for the employed adult is a primary motivation for enrollment in adult education; while aiding the student, it also opens lower-level positions to those just entering the labor force.

More guidance, pre-vocational training, and support services are needed to attract women into vocational education in fields where men now predominate. Women can succeed in higher-paying, undersupplied occupations when provided with the needed support. The LPN-or-nothing approach to vocational education is not in the best interests of the women or the State's economy. The same may be said for minority adults, who currently do not even approach vocational schools in the same numbers as women.

F. ANCILLARY SERVICES

1. The Role of Ancillary Services

Anyone seeking vocational training who has not recently attended school full-time must make some accomodations in his or her life. Ancillary services are those necessary to facilitate adult participation in training on a full- or part-time basis. They may be provided by the school or by other agencies, but they are all the proper concern of the vocational program planner, because they affect the ability of the adult student to learn a trade.

2. Survey of Service Providers

As described in Chapter V, AEC conducted a survey of those serving and/or representing adults with special characteristics and needs. One hundred and five organizations responded. Tables 3.23 through 3.29 describe the services they provide and the special groups they serve (many serve other groups as well) by labor market area. While coverage of the State is reasonably good, some gaps are noted. Because this was a sample survey, this does not mean that the services are absent in the labor market, but it is an indication that vocationally-oriented organizations are not providing the services adequately. One such gap is the small number of programs providing English as a Second Language and basic academic skills training in Region III, compared to the number providing vocational training and other services. Day care is not provided by many respondents in any region; thus students with family responsibilities must find their own in order to enroll in training. The Danielson-Willimantic area, where population densities are low and distance-to-training can be a serious problem, has little in

TABLE 3.23

PROGRAMS PROVIDING VOCATIONAL SERVICES TO ADULTS IN REGION I
(DATA PROVIDED BY RESPONDENTS TO BARRIERS SURVEY) **

SERVICES PROVIDED TO ADULTS, GROUPS SERVED	LABOR MARKET AREAS		
	DANBURY	TORRINGTON	WATERBURY
Services Provided			
Basic Academic Skills	3	5	3
Career Exploration Programs	3	4	4
Counseling - Career	3	5	4
Counseling - Educational	2	4	2
Counseling - Other	4	3	5
Day Care	-	1	-
Job Seeking/Employment Skills	5	4	6
Vocational Training	5	6	5
English as a Second Language	3	3	1
Financial Aid for Vocational Education	-	1	1
Legislative Advocacy	1	-	1
Supportive Services for Students (e.g., translators, textbook recording, liaison with school)	1	3	1
Transportation to Training	1	3	3
Other Services	2	1	3
Groups Served (No. of clients in parentheses*)			
All Groups	-	-	1 (unk.)
Blacks	2 (37)	1 (25)	1 (25)
Displaced Homemakers	-	1 (1,000)	-
Economically Disadvantaged Black and Hispanic Youth	-	-	1 (25,000)
Emotionally/Socially Handicapped	1 (25)	3 (369)	2 (329)
Mentally Handicapped	1 (80)	2 (335)	2 (435)
Minorities Other than Black and Hispanic	1 (750)	1 (750)	1 (750)
Physically Handicapped	2 (225)	1 (44)	1 (44)
Rural Residents	-	2 (2,300)	-
Students	1 (60)	-	-
Veterans	1 (50)	1 (50)	-
Women	1 (30)	1 (1,800)	1 (2,481)
Youth	2 (630)	1 (600)	1 (1,031)

*Number of clients given may include persons from several labor areas.
Adding across areas may result in double-counting of clients.
** See Chapter V, Section A3 for details of survey. Entries are numbers of responding agencies providing services to clients from each Labor Market Area.

TABLE 3.24

PROGRAMS PROVIDING VOCATIONAL SERVICES TO ADULTS IN REGION II
(DATA PROVIDED BY RESPONDENTS TO BARRIERS SURVEY) **

SERVICES PROVIDED TO ADULTS, GROUPS SERVED	LABOR MARKET AREAS		
	BRIDGEPORT	NORWALK	STAMFORD
Services Provided			
Basic Academic Skills	2	2	1
Career Exploration Programs	5	6	5
Counseling - Career	5	7	5
Counseling - Educational	3	4	3
Counseling - Other	2	5	3
Day Care	1	3	2
Job Seeking/Employment Skills	5	8	7
Vocational Training	6	3	2
English as a Second Language	1	2	-
Financial Aid for Vocational Education	1	-	-
Legislative Advocacy	3	2	2
Supportive Services for Students (e.g., translators, textbook recording, liaison with school)	1	1	-
Transportation to Training	1	1	-
Other Services	2	1	1
Groups Served (No. of clients in parentheses*)			
All Groups	2 (2,820)	2 (6,700)	1 (1,200)
Blacks	1 (25)	-	2 (12)
Displaced Homemakers	1 (60)	1 (60)	1 (60)
Economically Disadvantaged	1 (30)	2 (357)	-
Emotionally/Socially Handicapped	-	1 (180)	1 (180)
Hispanics	1 (5)	1 (45)	1 (unk.)
Mentally Handicapped	1 (250)	1 (100)	1 (100)
Physically Handicapped	-	1 (1,620)	-
Women	2 (265)	4 (2,436)	3 (2,336)
Youth	1 (150)	2 (162)	-

*Number of clients given may include persons from several labor areas. Adding across areas may result in double-counting of clients.
**See Chapter V, Section A3 for details of survey. Entries are numbers of responding agencies providing services to clients from each Labor Market Area.

TABLE 3.25

PROGRAMS PROVIDING VOCATIONAL SERVICES TO ADULTS IN REGION III
(DATA PROVIDED BY RESPONDENTS TO BARRIERS SURVEY)**

SERVICES PROVIDED TO ADULTS, GROUPS SERVED	LABOR MARKET AREAS		
	ANSONIA	MERIDEN	NEW HAVEN
Services Provided			
Basic Academic Skills	4	5	7
Career Exploration Programs	5	5	9
Counseling - Career	7	8	12
Counseling - Educational	4	5	7
Counseling - Other	3	5	10
Day Care	-	-	3
Job Seeking/Employment Skills	7	8	13
Vocational Training	4	7	7
English as a Second Language	3	2	3
Financial Aid for Vocational Education	-	2	3
Legislative Advocacy	2	-	3
Supportive Services for Students (e.g., translators, textbook recording, liaison with school)	1	3	3
Transportation to Training	2	3	4
Other Services	3	5	5
Groups Served (No. of clients in parentheses*)			
All Groups	-	-	2 (450)
All Handicapped	-	1 (200)	-
Blacks	-	1 (25)	1 (12)
Black Displaced Homemakers	-	-	1 (2,500)
Black Ex-offenders	-	-	1 (150)
Black & Hispanic	-	1 (60)	-
Displaced Homemakers/Elderly Displaced Homemakers	1 (20)	2 (220)	3 (520)
Economically Disadvantaged	3 (1,200)	3 (280)	5 (3,900)
Emotionally/Socially Handicapped	-	-	1 (358)
Emotionally/Socially/Mentally Handicapped	-	-	1 (250)
Limited English Proficient	1 (10)	-	1 (10)
Mentally Handicapped	1 (15)	-	2 (466)
Mentally/Physically Handicapped	1 (15)	1 (15)	1 (15)
Minorities Other than Black & Hispanic	-	1 (750)	1 (750)
Physically Handicapped	-	-	2 (408)
Physically Handicapped Veterans	-	1 (20)	-
Rural Residents	-	-	1 (unk.)
Veterans	-	2 (200)	1 (68)
Women	3 (3,025)	2 (2,825)	7 (5,525)
Youth	1 (400)	1 (600)	1 (unk.)

*Number of clients given may include persons from several labor areas
Adding across areas may result in double-counting of clients.
**See Chapter V, Section A3 for details of survey. Entries are numbers of responding agencies providing services to clients from each Labor Market Area.

TABLE 3.26

PROGRAMS PROVIDING VOCATIONAL SERVICES TO ADULTS IN REGION IV
(DATA PROVIDED BY RESPONDENTS TO BARRIERS SURVEY) **

SERVICES PROVIDED TO ADULTS, GROUPS SERVED	LABOR MARKET AREAS		
	BRISTOL	HARTFORD	NEW BRITAIN
Services Provided			
Basic Academic Skills	5	8	3
Career Exploration Programs	5	12	3
Counseling - Career	5	17	4
Counseling - Educational	3	10	3
Counseling - Other	4	12	3
Day Care	-	3	-
Job Seeking/Employment Skills	5	20	4
Vocational Training	7	17	4
English as a Second Language	3	5	2
Financial Aid for Vocational Education	-	2	2
Legislative Advocacy	-	3	-
Supportive Services for Students (e.g., translators, textbook recording, liaison with school)	3	6	3
Transportation to Training	2	6	2
Other Sources	2	10	3
Groups Served (No.of clients in parentheses*)			
Alcohol and Drug Dependent/Black	-	1 (291)	-
Alcohol and Drug Dependent/Hispanic	-	1 (72)	-
Alcohol and Drug Dependent/White	-	1 (686)	-
Blacks	1 (25)	5 (2,387)	1 (25)
Blacks and Hispanics	-	1 (60)	1 (60)
Displaced Homemakers/Elder Displaced Homemakers	-	3 (487)	1 (200)
Economically Disadvantaged	1 (150)	2 (1,650)	2 (1,650)
Economically Disadvantaged Blacks	-	1 (8,000)	-
Elderly	-	1 (100)	-
Emotionally/Socially Handicapped	2 (392)	2 (258)	1 (238)
Emotionally/Socially/Physically Handicapped	-	1 (1,000)	-
Hispanics	-	4 (9,200)	-
Men	-	1 (1,000)	-
Mentally Handicapped	2 (572)	4 (700)	1 (387)
Minorities Other than Black and Hispanic	1 (750)	2 (1,350)	1 (750)
Physically Handicapped	2 (164)	3 (370)	1 (120)
Physically Handicapped Veterans	-	1 (20)	1 (20)
Rural Residents	1 (800)	3 (2,500)	-
Students	-	1 (3,500)	-
Veterans	1 (50)	3 (2,850)	1 (50)
Whites/White Males	-	1 (2,100)	-
Women	-	5 (25,600)	1 (1,200)
Youth	1 (107)	5 (2,040)	1 (600)

*Number of clients given may include persons from several labor market areas. Adding across areas may result in double-counting of clients.

**See Chapter V, Section A3 for details of survey. Entries are numbers of responding agencies providing services to clients from each Labor Market Area.

TABLE 3.27

PROGRAMS PROVIDING VOCATIONAL SERVICES TO ADULTS IN REGION V
(DATA PROVIDED BY RESPONDENTS TO BARRIERS SURVEY) **

SERVICES PROVIDED TO ADULTS, GROUPS SERVED	LABOR MARKET AREAS	
	DANIELSON	WILLIMANTIC
ervices Provided		
Basic Academic Skills	2	3
Career Exploration Programs	2	2
Counseling - Career	6	6
Counseling - Educational	4	4
Counseling - Other	4	3
Day Care	-	-
Job Seeking/Employment Skills	5	6
Vocational Training	5	5
English as a Second Language	2	2
Financial Aid for Vocational Education	4	3
Legislative Advocacy	-	1
Supportive Services for Students (e.g., translators, textbook recording, liaison with school)	2	2
Transportation to Training	1	1
Other Services	2	3
roups Served (No. of clients in parentheses*)		
All Groups	1 (unk.)	2 (unk.)
Blacks	-	1 (12)
Displaced Homemakers	1 (250)	1 (250)
Economically Disadvantaged/Rural	-	1 (50)
Limited English Speaking	-	1 (30)
Mentally Handicapped	-	1 (20)
Minorities Other than Balck and Hispanic	1 (750)	1 (750)
Physically Handicapped	-	1 (200)
Rural Residents	2 (1,700)	3 (1,820)
Veterans	1 (300)	1 (300)
White Males	1 (100)	-
Women	1 (1,000)	2 (1,550)
Youth	1 (50)	1 (50)

umber of clients given may include persons from several labor areas.
dding across areas may result in double-counting of clients.
ee Chapter V, Section A3 for details of survey. Entries are numbers of
esponding agencies providing services to clients from each Labor Market Area.

TABLE 3.28

PROGRAMS PROVIDING VOCATIONAL SERVICES TO ADULTS IN REGION VI
(DATA PROVIDED BY RESPONDENTS TO BARRIERS SURVEY)**

SERVICES PROVIDED TO ADULTS, GROUPS SERVED	LABOR MARKET AREAS		
	MIDDLETOWN	NEW LONDON	NORWICH
Services Provided			
Basic Academic Skills	8	2	2
Career Exploration Programs	4	5	5
Counseling - Career	8	8	6
Counseling - Educational	7	5	3
Counseling - Other	6	4	5
Day Care	-	1	1
Job Seeking/Employment Skills	10	7	6
Vocational Training	8	3	2
English as a Second Language	4	1	1
Financial Aid for Vocational Education	3	2	1
Legislative Advocacy	-	-	1
Supportive Services for Students (e.g., translators, textbook recording, liaison with school)	3	2	2
Transportation to Training	3	1	2
Other Services	5	4	2
Groups Served (No. of clients in parentheses*)			
All Handicapped	1 (200)	-	-
Apprentices	-	1 (1250)	-
Blacks	2 (25)	-	-
Blacks and Hispanic	1 (60)	1 (60)	-
Criminal Offenders	-	-	1 (360)
Displaced Homemakers/Elderly Displaced Homemakers	2 (220)	1 (unk.)	1 (unk.)
Economically Disadvantaged	5 (330)	1 (150)	-
Emotionally/Socially Handicapped	1 (238)	-	-
Ex-Offenders/Black Ex-Offenders	1 (150)	-	1 (200)
Limited English Proficient	2 (1000)	-	-
Mentally Handicapped	1 (387)	-	-
Mentally/Physically Handicapped	1 (15)	-	-
Minorities Other than Blacks & Hispanics	1 (750)	1 (750)	1 (750)
Physically Handicapped	1 (120)	-	-
Physically Handicapped Veterans	1 (20)	1 (20)	-
Rural Residents	1 (165)	1 (500)	1 (500)
Veterans	2 (1487)	1 (275)	1 (275)
Women	3 (6057)	3 (1300)	2 (1200)
Youth	3 (800)	-	-

* Number of clients given may include persons from several labor market areas. Adding across areas may result in double-counting of clients.

** See Chapter V, Section A3 for details of survey. Entries are numbers of responding agencies providing services to clients from each Labor Market Area.

TABLE 3.29

PROGRAMS PROVIDING VOCATIONAL SERVICES TO ADULTS STATEWIDE*
(DATA PROVIDED BY RESPONDENTS TO BARRIERS SURVEY)**

SERVICES PROVIDED TO ADULTS, GROUPS SERVED	PROGRAM WITH STATEWIDE SERVICE AREAS	
Services Provided		
Basic Academic Skills	2	
Career Exploration Programs	4	
Counseling - Career	10	
Counseling - Educational	9	
Counseling - Other	10	
Day Care	2	
Job Seeking/Employment Skills	7	
Vocational Training	5	
English as a Second Language	2	
Financial Aid for Vocational Education	5	
Legislative Advocacy	6	
Supportive Services for Students (e.g., translators, textbook recording, liaison with school)	3	
Transportation to Training	1	
Other Services	8	
Groups Served (No. of clients in parentheses***)		
All Groups	1	(1,100)
Blacks/Economically Disadvantaged Blacks	3	(8,212)
Displaced Homemakers	1	(unk.)
Emotionally/Socially Handicapped	3	(450)
Hispanics	3	(3,810)
Limited English Proficient	1	(400)
Mentally Ill	1	(10)
Mentally/Physically Handicapped	1	(200)
Migrant Farm Workers	1	(unk.)
Physically Handicapped Only	2	(600)
Veterans	2	(3,500)
White Males	2	(300)
Women	5	(3,900)
Youth	1	(50)

*Includes only those agencies which reported serving the entire State, from one or more locations.

**See Chapter V, Section A3 for details of survey. Entries are numbers of responding agencies providing services to clients from each Labor Market Area.

***Number of clients given may include persons from several labor areas. Adding across areas may result in double-counting of clients.

the way of transportation to training programs. The shortage of English as a Second Language Training, and of programs serving Hispanics, in the New London and Norwich areas may indicate a serious problem in a part of the State where many Hispanics reside.

3. Day Care

Adult students frequently have family responsibilities. Without adequate day care, it is difficult for a parent to maintain regular attendance at a job or school. A study of day care in Connecticut by the Permanent Commission of the Status of Women in 1975 came to the following conclusions regarding availability:

- "Only slightly more than 1/4 of all families requiring day care can have their needs met through the existing day care network"
- "less than 1/2 the need for full-time care, the most urgent need of all can be met by existing centers"*

They estimated that there were a total of approximately 9,100 full-time day care slots available in 237 facilities. An additional 17,859 part-time slots in 660 facilities, plus 5,539 positions in 2,175 known family day care homes were also estimated.

While the State's birthrate is declining, labor force participation by women has been increasing, and day care is a prerequisite to that participation, from the time a woman begins training. Although day care is generally perceived to be a service for women, it serves fathers as well. When wives are needed at home for child care, family income cannot generally support retraining or upgrading of their husbands' job skills. Thus, day care for a student's children can be critical for either sex.

*Child Care Committee, Permanent Commission on the Status of Women. Day Care in Connecticut Problems and Perspectives. Hartford: PCSW, July 1975.

A review of currently licensed Child Day Care Centers and Group Day Care Homes in Connecticut shows that facilities are located in most towns, but in many towns, parents may find only one or two to select from. And they may not have any choice at all, if all day care slots are filled.

4. Educational and Career Counseling

Public and private counseling services are available throughout the State to adults seeking guidance in returning to school or re-entering the job market, but the choice of counselors may affect the prospective student's access to information, as vocational education for adults is quite fragmented. Two recent State efforts are going a long way toward remedying the lack of information coordination. The first is the Education/Employment Hotline, which handled 8,560 calls in its first 11 weeks.* The Hotline refers callers to public and private schools, CETA, Job Service, and other agencies. The other is the computerized information system developed by the Connecticut Occupational Information Coordinating Committee, which will be employed by educational and employment counselors in various agencies to provide comprehensive, up-to-date information to clients once fully implemented.

5. Adult Basic Education

Based on 1976 Census data for Connecticut, nearly one-third of all persons over the age of 25 have not completed high school, and 18% have never even begun. Vocational education relies on the basic skills acquired in high school, yet many adults do not have these skills.

*Education/Employment Hotline Summary Report, December 1-31, 1980.

A 1977 study of Adult Basic Education in the State found that only 11 local school districts offered the full range of mandated adult programs (citizenship/ESL, elementary, and secondary). Another 32 offered elementary and secondary programs without citizenship/ESL. The study estimated that 112,000 adults (15%) had no immediate access to mandated adult programs, and another 39,462 (5%) did not have access to the appropriate programs for their needs.*

6. English-as-a-Second-Language

Approximately four to seven percent of the State's residents are of Hispanic origin, many recently immigrated. For these persons, mastery of the English Language is essential to employment and participation in monolingual vocational training. The 1977 Adult Basic Education study cited above found that only 23 local school districts in the State offered English-as-a-Second-Language classes. Access to such class was particularly limited in the northwestern, north central (above Hartford), northeastern, and south central (below Middletown) portions of the State.**

7. Implications for Adult Vocational Education

This review of ancillary services suggests that the following are needed to support adults in vocational education: additional Adult Basic Education and ESL classes, statewide implementation of the COICC information system, and improved access to day care for dependent children. These areas are covered in greater depth in the next section.

*Barbara Gottschalk. An Evaluation of Connecticut's Adult Education and Adult Basic Education Grant Programs. Hartford: Office of Fiscal Analysis, Connecticut General Assembly, April 1977.

**Ibid.

G. BARRIERS TO ADULT PARTICIPATION

1. General Barriers for All Adults

The reasons why adults and out-of-school youth do not pursue vocational education are many and varied. Institutional barriers, social constraints, and psychological factors all serve to discourage adults in their pursuit of post-secondary vocational education. Although women may experience the same barriers which men experience to a lesser degree, and youth and the older adult face different barriers, there are some barriers which deter all categories of adults from participation in vocational programs.

In the area of institutional barriers, several practices have been identified. In admissions policies, for example, age restrictions are usually not stated as policy, but counselors may discourage students over a certain age, typically 35 or 40. Refusal to accept part-time students, charging a higher tuition for part-time students, or stipulating a minimum fee per semester are barriers to participation experienced by the adult population in general.

Financial aid practices are another deterrent. In some cases, eligibility for financial assistance is restricted to full-time students. A lack of flexible, deferred payment plans discourages many potential adult learners. Adults with responsibilities for care of young children experience difficulty in obtaining aid for child care expenses. The limited availability of work-study programs is another problem faced by adult learners.

A lack of flexible, innovative curriculum planning is another barrier experienced by adults. Programs are sometimes offered in high-crime areas which lack public transportation. Scheduling patterns often do not

accommodate married or employed students. Specifically cited barriers are a lack of afternoon, evening, and Saturday classes. A lack of evening course registration dates, external degree programs, and a hesitancy to open day-time classes for part-time students present additional educational barriers. Adults also experience limited access to academic resources such as libraries, laboratories, electronic learning centers, and registration offices. Many programs lack a program acceleration option, forcing adults to spend precious time in classes which may be teaching a curriculum they have already learned. Prior experience with under-staffed and under-financed part-time programs often discourages adults from trying again. Limited opportunities for part-time clinical or field work experience represent additional barriers to vocational education.

In the area of social constraints, several barriers exist. The effects of social class influence perceptions of the amount and type of education needed or desired. Social class also affects the ability to pay for further education and influences one's exposure to information about opportunities for further education. In addition, a social class often determines where you live and the quality of the elementary and secondary preparation you receive. Membership in stable ethnic communities may discourage adults from leaving familiar lifestyles and neighborhoods to seek further education. Ethnic groups may be geographically isolated from centers of education. Ethnic and minority groups may be politically isolated or may lack effective political leaders to encourage the pursuit of post-secondary education. Adults often experience negative family attitudes toward continuing their education, such as limited parental expectations of educational goals, lack of approval from spouses, lack of approval from one's own children, or negative feelings about non-traditional career programs.

2. Survey of Organizations Serving Special Groups of Adults

During March and April of 1981, AEC surveyed 283 organizations familiar with the barriers faced by special groups of adults in participating in vocational education. Thirty-seven percent (105) responded. Details on the methodology, respondents, and response rates may be found in Chapter V. This section presents the results of that survey, supplemented by other analyses of barriers found through a review of the literature.

The results are presented in a manner known as the "criticality function."* Responses to the survey are plotted on a graph in which one axis represents the rating of the severity of each barrier, and the other represents the extent to which the problem has been alleviated locally. The two axes cross at the mean ratings across all barriers for the specific group. The quadrants are then labelled I through IV (see sample graphs later in this section). Quadrant I includes those barriers rated above-average in importance and prevalence (the obverse of "extent to which barrier has been eliminated"). Actual graphs were prepared for the three groups most often referenced by respondents. For the remaining groups, only the barriers placed in Quadrant I, most critical, are listed.

3. Black Adults

Thirteen respondents, serving 38,613 clients annually, rated the barriers facing Black adults. Their responses are shown in Figure 3.11. Looking at Quadrant I, we can see that the most serious and least obviated barrier is:

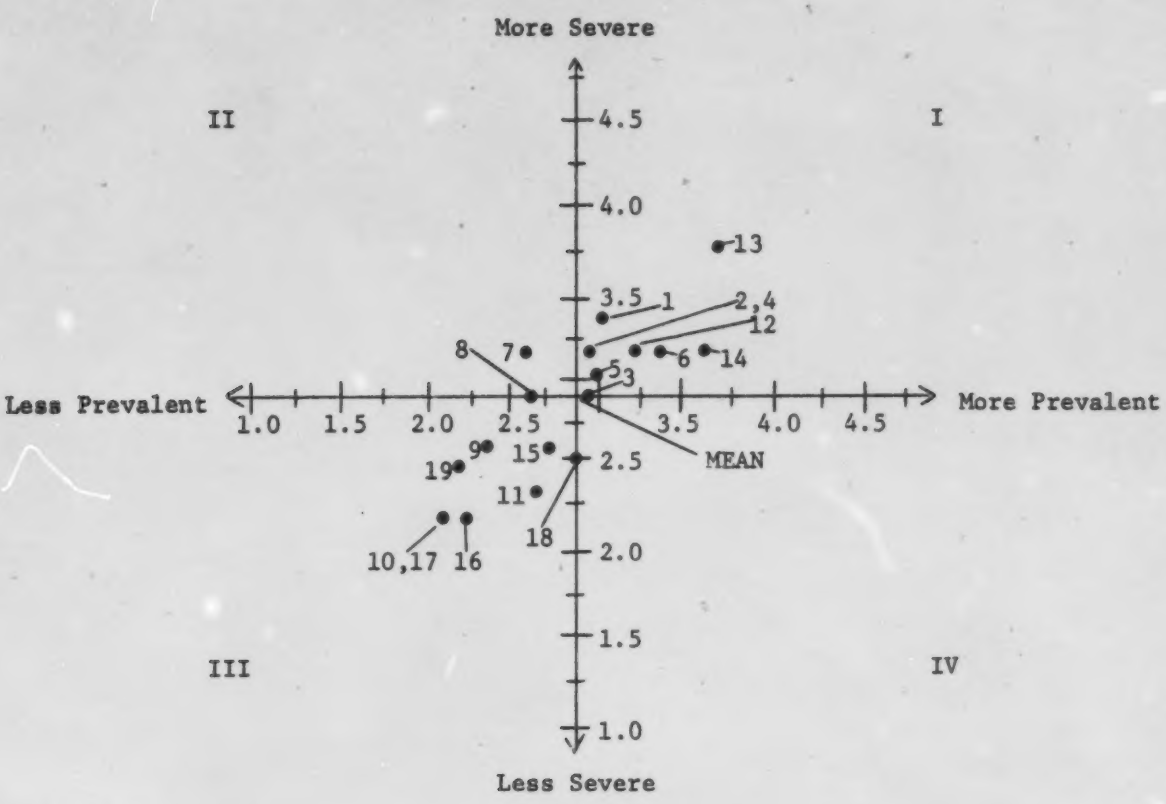
. Ability to pay/financial aid (3.8, 3.7)**

*Martin Hershkowitz. Critical Issues in Educational Needs Assessment. Educational Planning. Volume 3, No. 2, October 1976.

**Numbers in parentheses are mean ratings on severity and extent eliminated locally, both of which were rated by participants on a 1 to 5 scale. See survey instrument in Appendix C.

FIGURE 3.11

RATINGS OF BARRIERS TO PARTICIPATION OR SUCCESS
IN VOCATIONAL EDUCATION FOR BLACKS
(13 Respondents, Serving 38,613 Black Clients)



KEY TO BARRIERS:

1. Academic preparation (basic skills)
2. Exposure to information about educational and career opportunities
3. Availability of career counseling
4. Availability of educational counseling
5. Availability of counseling on personal problems
6. Availability of pre-vocational training
7. Range of vocational programs offered
8. Location of training (distance, transportation, safety)
9. Hours or days training is offered
10. Physical access to classrooms (architectural barriers)
11. Need for special adaptation of training to a physical limitation
12. Family or social expectations
13. Ability to pay/financial aid
14. Availability & cost of child care
15. Perceived racial discrimination by vocational educators or counselors
16. Perceived age discrimination by vocational educators or counselors
17. Perceived sex discrimination by vocational educators or counselors
18. Availability of English as a second language training
19. Availability of bilingual vocational training

Also in that most critical quadrant are these barriers:

- Availability and cost of child care (3.2, 3.6)
- Academic preparation (basic skills) (3.4, 3.0)
- Availability of pre-vocational training (3.2, 3.3)
- Family or social expectations (3.2, 3.2)
- Exposure to information about educational and career opportunities (3.2, 2.9)
- Availability of educational counseling (3.2, 2.9)
- Availability of counseling on personal problems (3.0, 3.0)

These survey results reiterate the problems cited for Blacks elsewhere. The top three are repeatedly mentioned. The need for pre-vocational training and some alleviation of family or social expectations both stem from the historical exclusion of Blacks from many occupations and the lack of a community or family history of vocational training. For Black women, the additional barriers of low self-concept and the perception of vocational education as training for low-paying, dead-end jobs have also been mentioned.*

4. The Economically Disadvantaged

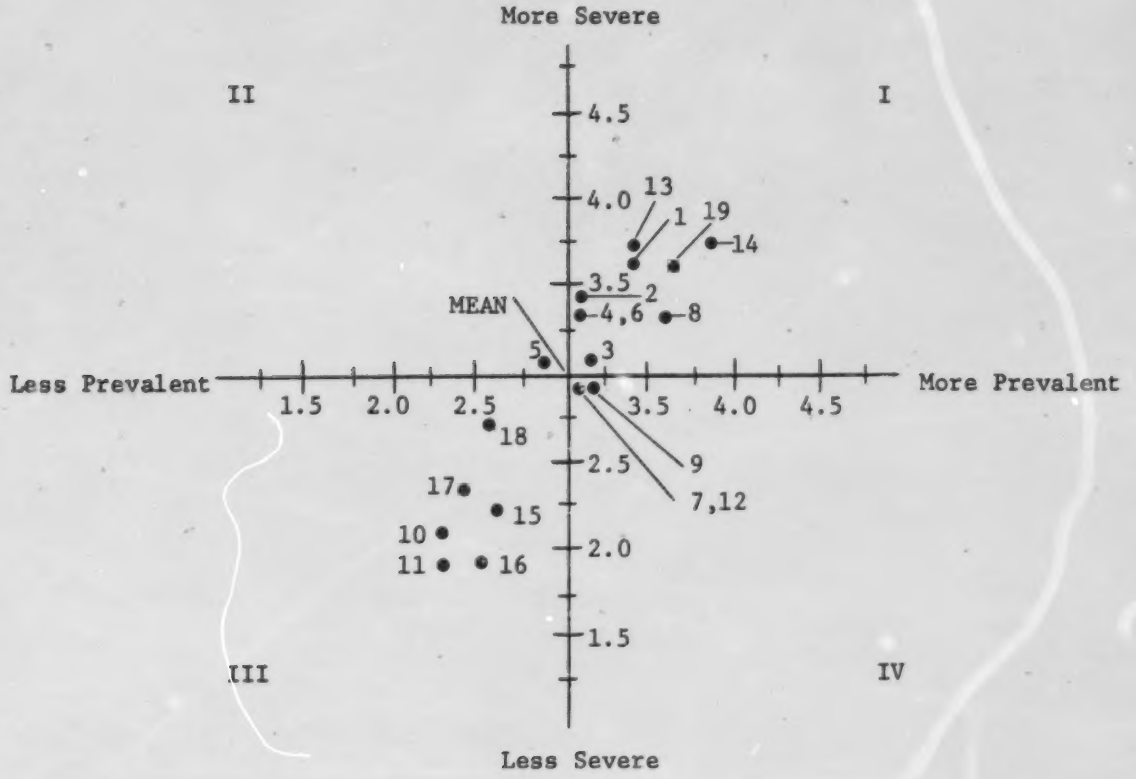
Eighteen respondents rated barriers for the economically disadvantaged. (See Table 3.12). Together, they served 44,587 clients annually. Identified as most critical were the following barriers:

- Availability and cost of child care (3.7, 3.0)
- Availability of bilingual vocational training (3.6, 3.6)
- Ability to pay/financial aid (3.7, 3.4)
- Academic preparation (basic skills) (3.6, 3.4)

*L. Miranda and Associates. Concerns of Minority Women with Respect to Vocational Education. Washington, D.C.: L. Miranda and Associates, 1977 (ERIC ED164 633).

FIGURE 3.12

RATINGS OF BARRIERS TO PARTICIPATION OR SUCCESS
IN VOCATIONAL EDUCATION FOR THE ECONOMICALLY DISADVANTAGED
(18 Respondents, Serving 44,587 Disadvantaged Clients)



KEY TO BARRIERS:

1. Academic preparation (basic skills)
2. Exposure to information about educational and career opportunities
3. Availability of career counseling
4. Availability of educational counseling
5. Availability of counseling on personal problems
6. Availability of pre-vocational training
7. Range of vocational programs offered
8. Location of training (distance, transportation, safety)
9. Hours or days training is offered
10. Physical access to classrooms (architectural barriers)
11. Need for special adaptation of training to a physical limitation
12. Family or social expectations
13. Ability to pay/financial aid
14. Availability & cost of child care
15. Perceived racial discrimination by vocational educators or counselors
16. Perceived age discrimination by vocational educators or counselors
17. Perceived sex discrimination by vocational educators or counselors
18. Availability of English as a second language training
19. Availability of bilingual vocational training

. Location of training (distance, transportation safety) (3.3, 3.6)

. Exposure to information about educational and career opportunities (3.4, 3.1)

. Availability of educational counseling (3.3, 3.1)

. Availability of pre-vocational training (3.3, 3.1)

. Availability of career counseling (3.1, 3.2)

Again, these echo the literature on the wide range of problems facing this group.

5. Women

The 23 survey respondents commenting on barriers facing women serve approximately 48,000 women annually. The greatest barrier by far was:

. Availability and cost of child care (3.8, 3.7)

Others in Quadrant I were:

. Ability to pay/financial aid (3.4, 3.4)

. Availability of bilingual vocational training (3.3, 4.1)

. Availability of pre-vocational training (3.4, 3.5)

. Availability of career counseling (3.0, 3.1)

. Range of vocational programs offered (3.3, 3.4)

. Location of training (distance, transportation safety) (3.2, 3.2)

. Family or social expectations (3.5, 3.3)

Unwritten sex quotas for admissions are often influenced by the belief held by some admissions counselors that women are more likely to drop out of school before program completion, or that women will fail to use their education after they have acquired it. Lack of transportation is another barrier keenly felt by women. The woman living in rural or suburban areas

does not have the reliable system of public transportation usually available to her counterpart living in the city. Those located in urban areas may be hesitant to travel into high-crime areas to pursue further education.

Lack of a personal income to meet tuition and school related costs presents a very real problem for women who are dependent upon their husband's income for support. Women who are responsible for their own financial support may be unwilling or unable to secure loans for education. Single mothers have the additional financial burden, in many cases, of dependents to provide for. The cost of day care to attend classes can be a deterent for them, and for married women.

A counselor bias against women in non-traditional jobs sometimes deters women from the pursuit of their goals, and directs women away from careers that pay well. Another problem is a lack of awareness of the special counseling needs of students with limited decision-making opportunities. Because of societal expectations, many women have not had the opportunity to make decisions on their own. Biased interest inventories which are often inappropriate for sensitive, intelligent, although uneducated women, often represent an additional barrier for women.

A lack of high-quality, conveniently located child-care facilities for women with families at all income levels is perhaps the biggest hindrance

to women's participation in vocational education. Closely related to this barrier is the lack of after-school activities for school-age children, again at all economic levels. Income ceilings in public child-care facilities make them inaccessible to women who are both unable to qualify for public assistance and unable to bear the cost of quality child care on their own resources.

6. Displaced Homemakers

Only six respondents reported on displaced homemakers, but obviously, they also face the barriers which keep women from obtaining vocational training. The availability and cost of child care were rated more critical for this group of women (4.4, 3.3), as was the ability to pay (4.3, 3.1).

The persons included by the term displaced homemakers clearly need to seek employment, and just as clearly, have specific barriers to gaining either training or employment. The barriers are both technical and psychological. Some which are readily identified are: lack of child-care facilities, lack of transportation, emotional problems (self or children), age and sex discrimination, racial and ethnic discrimination, lack of available training, lack of job placement services, lack of recent work experience, and lack of understanding about the world of work and finance.

These are the universal barriers to the disadvantaged but they are heightened in the case of the displaced homemaker because for years the displaced homemaker was dependent upon her husband for emotional and economic support and, often unexpectedly, is forced to become self-sufficient and independent.* The displaced homemaker is at a great disadvantage in continuing the education she often desperately needs because

*Bodeen, Carol. "What Happens When Homemakers Lose Their Jobs?" VOCED, 53: 54-59, November 1978.

of the multitude of responsibilities thrust upon her. Often she is attempting to continue her education while trying to care for her home and children as well. She needs her education to get a job and she needs a job to continue her education.

Although the cultural emphasis on a displaced woman's family responsibilities varies somewhat with social class, education, age, religious affiliation, ethnicity and race, it is clear that counseling organizations within any school situation must include facilities and information to aide these women.* It is clear that the emotional trauma of establishing and maintaining a one-partner family must be dealt with effectively if women are to be educated and trained to participate successfully in the labor force. These problems are accentuated for Hispanic women because of their cultural upbringing and, frequently, their isolation from the extended family.

7. The Handicapped

Thirteen respondents rated barriers for the mentally handicapped. Together, they serve 1,960 such persons annually. Rated as most critical were the following barriers:

- Family or social expectations (3.5, 3.3)
- Availability of career counseling (3.3, 3.3)
- Availability of educational counseling (3.2, 3.5)
- Range of vocational programs offered (3.5, 3.1)
- Ability to pay/financial aid (3.5, 3.1)
- Availability of bilingual vocational training (3.3, 3.7)

Frank Bowe in his extensive research for educating handicapped persons has noted that the counseling aspect of any vocational program is always

*Carrington, Ruth. "Work and the Older Woman--Reckoning with Re-Entry, "Women's Work, November/December 1977.

noted to be an important facet but when it comes time to solicit and distribute funds the counseling program often takes a back seat to the task and trade learning facet of the vocational program. Any student can benefit from a counseling program that helps him select a career and aids him in achieving his goals, but it is critical that a handicapped person and his family receive guidance and counseling previous to vocational training. When this is not available or not adequate it is just one more problem for the handicapped student; often, a failure to properly counsel and place a handicapped student can be a life-time detriment to success for that person.[13]

Often the people closest to the handicapped students supply detrimental input to the student's career planning and education.[14] Parents, mates, and friends often maintain low career aspirations for the disabled students. Such attitudes may stem from protective feelings or a limited knowledge of what disabled adults are able to do. The low career aspirations may also be the result of the teachers that the parents interact with during the student's early school years. Often parents and students wait too long before asking about career planning. If educators take the time to counsel and speak at length with those closest to the handicapped student they can uncover a large amount of information conerning the student's needs and abilities and a valuable resource for students can be tapped. Modern technology and recent legislation have enabled many more career options to be available to the handicapped person. If training for these careers is to be effective it must be a comprehensive learning environment, with the cooperation of friends, family, and educators.

[13]Bowe, Frank, and Jane Ann Razeghi. "Enabling the Disabled through Career Counseling," VOCED, 54:44-48, October 1979.
[14]Bowe, Frank. Handicapping America: Barriers to Disabled People. New York, NY: Harper and Row, 1978.

For the physically handicapped, 8 respondents rated barriers; they serve 2,667 clients annually. The most critical barriers:

- Need for special adaptation of training to a physical limitation (3.6, 3.7)
- Availability and cost of child care (3.6, 3.4)
- Ability to pay/financial aid (3.7, 3.2)
- Availability of career counseling (3.5, 3.3)
- Availability of pre-vocational training (3.4, 3.5)
- Range of vocational programs offered (3.4, 3.6)

Physical access to classrooms received mean ratings of only 2.7 and 3.2, but the need to adapt the training to the handicap was seen as most critical. This reflects the variety of physical handicaps experienced, which include vision, hearing, motor, and other impairments.

The President's Committee on Employment of the Handicapped reports that one in eleven Americans within the ages of 16-64 are disabled to the extent that they are unable to work for a period of six weeks or longer. Many of these 15 million youth and adults can be effectively served by vocational education.*

The number of physically handicapped adults has increased as the general population has grown, as traffic accidents have risen, as war veterans come home, and as medical knowledge and care have improved. Prior to World War II, for example, a man with a severed spinal cord had a life expectancy of six months from the date of injury. Today, he may be expected to live a full chronological life, often in a wheelchair. Modern medicine has similarly improved the outlook for those with many other

*Phelps, L. Allen. "A Message for Special Educators," VOCED, 54:63-64, February 1979.

disabilities. For vocational educators, this means providing services for a more mobile, energetic, and able handicapped population.

8. Veterans

Only 7 respondents rated barriers for veterans. The highest ranked barriers were:

- Availability of counseling on personal problems (3.3, 3.3)
- Academic preparation (basic skills) (3.1, 3.0)
- Availability of pre-vocational training (3.0, 3.4)
- Availability of bilingual vocational training (3.1, 3.0)

Many of the barriers experienced by veterans are of a personal nature, although veterans share certain difficulties with other groups based on race, sex, and place of residence. In addition to personal barriers, other barriers are a result of governmental "red tape" and some basic inequalities in our way of life. Veterans who served Vietnam have experienced the phenomenon of being the most unappreciated veterans of the most unpopular military involvement in our nation's history.

There is usually some adjustment from military to civilian life. This transition period can be smooth or extremely difficult, depending on the individual involved. This adjustment period is often reflective of the mental health of the individual involved and the nature of the military experience. A person drafted into a combat situation could be expected to experience a longer and more difficult transition period than a veteran who enlisted and was able to choose a work program in an area of personal interest. The adjustment from military to civilian life is a highly personal one and cannot be generalized. However, when the adjustment is awkward, there is no doubt that it poses a barrier for the veteran seeking vocational education.

Psychologists who work with veterans have found that the assimilation of the veteran into the mainstream of civilian life can be hampered by the fact that his vocational training may have been interrupted by military service. The particular course of study which a veteran might have been pursuing prior to entering military service may not be available upon return to civilian life. Sometimes a student's training in the military is not easily transferable to civilian life. Even when a student trains in a field such as communications or computer technology, the training is often so attuned to military concerns that it is difficult to adapt these skills to civilian life.

Directors and administrators of various agencies which serve veterans have found that, at times, our government itself seems to erect barriers for veterans attempting to continue their education. To be approved for governmental funding from the Veterans Administration, an institution must survey their vocational programs and do extensive follow-up to show that at least fifty percent of students completing a given program are placed in the field related to their training. This policy was originally instituted to ensure that veterans were competent enough, as a result of training received, to find work in the field of instruction. Many schools which offer excellent training are nevertheless hesitant or unwilling to spend the time and manpower needed to complete complicated governmental documents and do follow-up surveys, thus limiting the training available to veterans. Recent changes have begun to reverse this trend, however.

9. Other Groups

Too few responses were received for most other groups included in the survey. They are, however, included in the regional analyses in the following section.

Although too few responses were received, there are real barriers for the growing population of limited English-speaking ability. With the influx of Indo-Chinese and Hispanic groups, among others, to the United States in recent years, there has been an increased awareness of the educational needs of these people and a recognition of the barriers to education that persons with limited English-speaking ability face.

Cultural differences, and social or psychological difficulties are some factors which represent barriers to those students with limited or no English-language ability. When a society functions in English almost entirely, a person with limited language is hindered from obtaining gainful employment or from obtaining the training to do so. The insufficient mastery of English itself is the greatest impediment to students beginning or continuing their vocational education.

A student who does not read or understand English is generally unaware of what schools or programs provide vocational training. Advertisements in foreign language newpapers or on ethnic radio and television programs often have proved to be the only way to reach those potential students with limited English-language ability. The language barrier can prevent a person from using the resources that may exist within the community. If a person is aware of what opportunities are available often they cannot communicate their needs or preferences to an English-speaking counselor. The need for foreign language speaking counselors, even if a program is not bilingual, is indicated when the population of a given area is comprised of significant numbers of people with limited English-speaking skills. The lack of sufficient bilingual training courses can be a tremendous hindrance to a person with reduced language skills.

An English as a Second Language course is often the first step for a student who wishes to enter a vocational program. Some mastery of the English language can make training, counseling, and job opportunities accessible to the student. When English as a Second Language courses are not readily available this can prove to be an insurmountable barrier. Competent language skills can determine any further success a student can attain in school or the labor force. Survey respondents emphasized the need for ESL classes, giving this barrier the third highest ratings, after social expectations and academic preparation.

10. Regional Ratings of Barriers

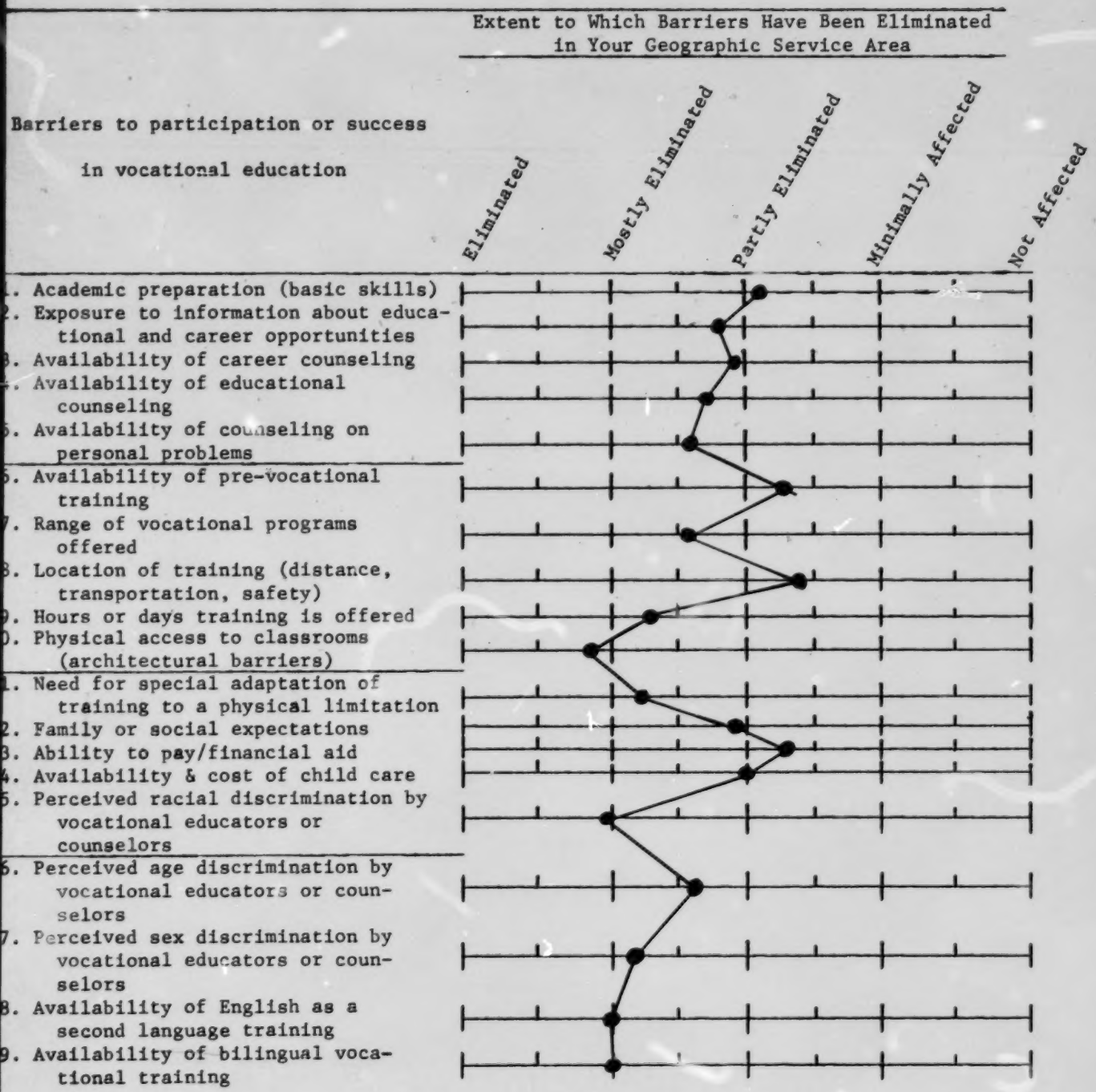
Figures 3.13 through 3.19 show, for each region, the overall rating of the elimination of barriers for all groups. Child care was a remaining problem in most regions, as were family or social expectations and ability to pay. Counseling (all types) availability remains a problem in several regions. This may be an indication that existing counseling is not considered to be adequate for the special groups dealt with in the survey.

11. Implications for Adult Vocational Education

The most serious barriers for many groups are academic preparation, ability to pay, cost and availability of child care, and availability of educational and career counseling. These have all been addressed in the section on ancillary services. Also serious for many are social or family expectations. Skillful recruiting procedures, public information campaigns, and counseling can overcome these. For the physically handicapped, individual adaptation of training is needed for adults just as it is for children. Finally, for the limited English-speaking, full implementation of mandated local ESL training is essential.

FIGURE 3.13

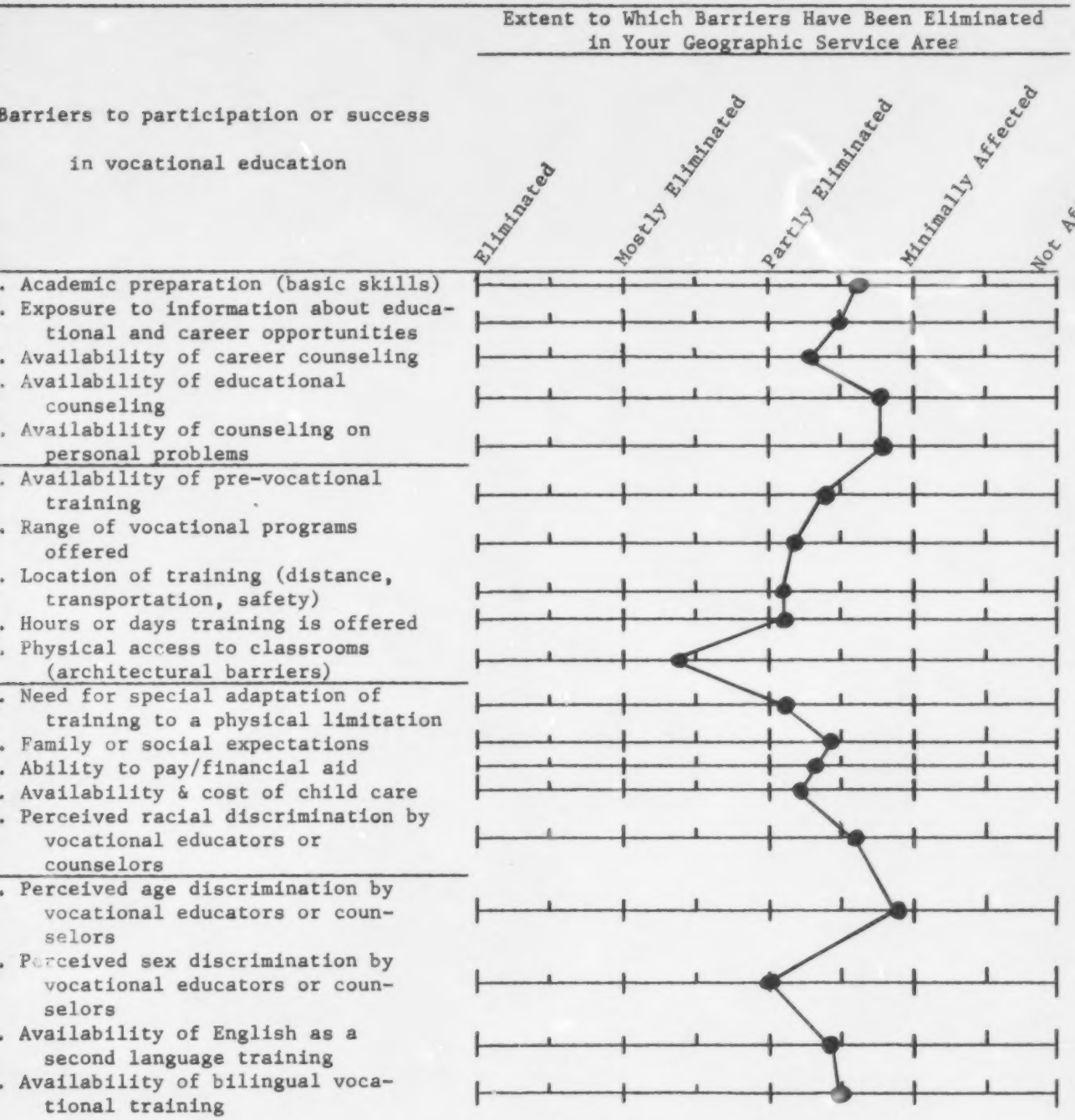
MEAN RATINGS OF ELIMINATION OF BARRIERS FOR REGION I
(Maximum Ratings Per Item: 17*)


Extent to Which Barriers Have Been Eliminated in Your Geographic Service Area
Barriers to participation or success in vocational education
Eliminated
Mostly Eliminated
Partly Eliminated
Minimally Affected
Not Affected
1. Academic preparation (basic skills)
2. Exposure to information about educational and career opportunities
3. Availability of career counseling
4. Availability of educational counseling
5. Availability of counseling on personal problems
6. Availability of pre-vocational training
7. Range of vocational programs offered
8. Location of training (distance, transportation, safety)
9. Hours or days training is offered
10. Physical access to classrooms (architectural barriers)
11. Need for special adaptation of training to a physical limitation
12. Family or social expectations
13. Ability to pay/financial aid
14. Availability & cost of child care
15. Perceived racial discrimination by vocational educators or counselors
16. Perceived age discrimination by vocational educators or counselors
17. Perceived sex discrimination by vocational educators or counselors
18. Availability of English as a second language training
19. Availability of bilingual vocational training

*These means are derived by summing responses for all groups by labor market area, then summing across labor market areas to get the regional total score and dividing by the total number of ratings. Because some respondents did not rate all items for all groups, the number of ratings varies over the 19 items.

FIGURE 3.14

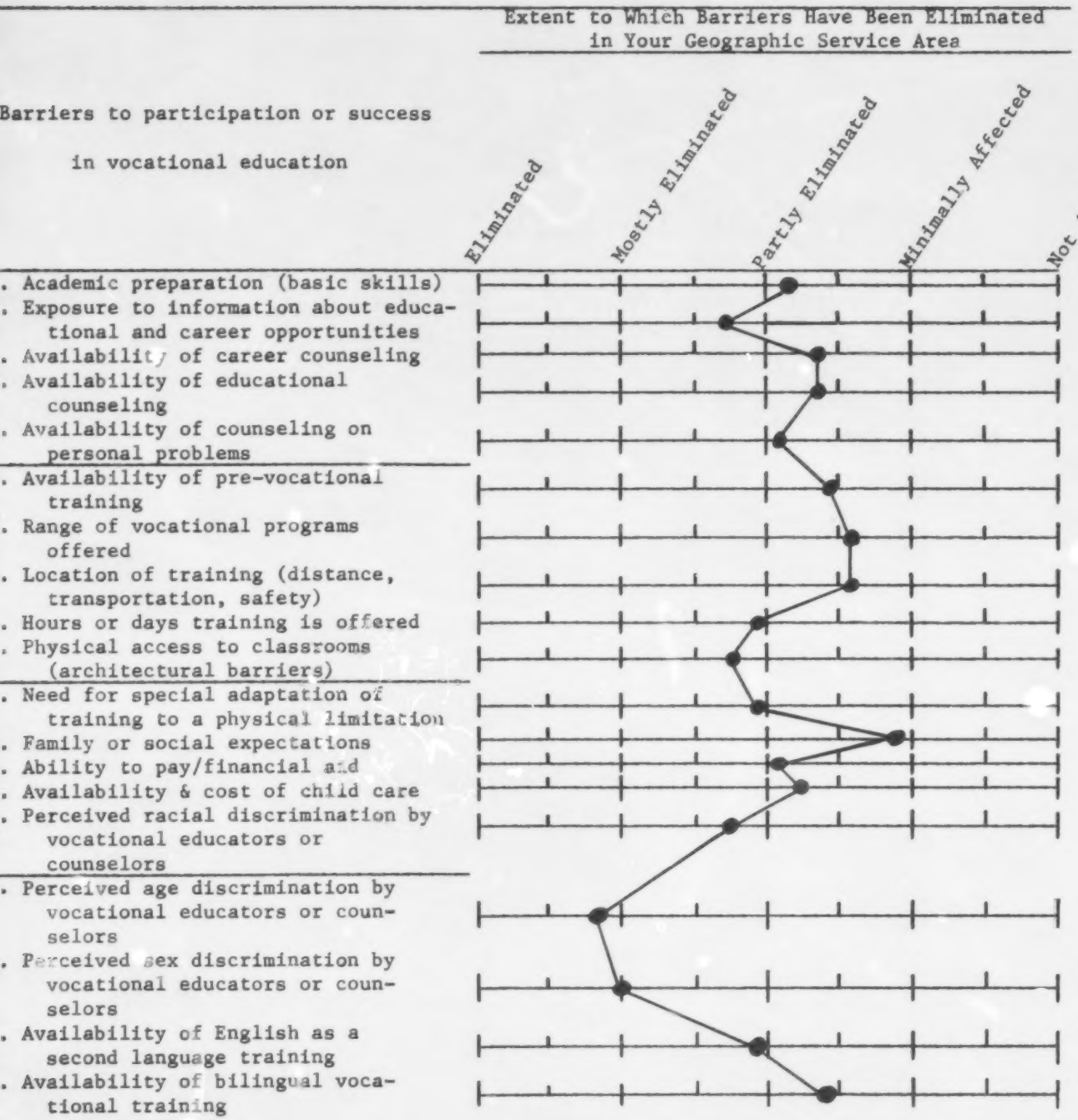
MEAN RATINGS OF ELIMINATION OF BARRIERS FOR REGION II
(Maximum Ratings Per Item: 10*)


Extent to Which Barriers Have Been Eliminated in Your Geographic Service Area
Barriers to participation or success in vocational education
Eliminated
Mostly Eliminated
Partly Eliminated
Minimally Affected
Not Affected
. Academic preparation (basic skills)
. Exposure to information about educational and career opportunities
. Availability of career counseling
. Availability of educational counseling
. Availability of counseling on personal problems
. Availability of pre-vocational training
. Range of vocational programs offered
. Location of training (distance, transportation, safety)
. Hours or days training is offered
. Physical access to classrooms (architectural barriers)
. Need for special adaptation of training to a physical limitation
. Family or social expectations
. Ability to pay/financial aid
. Availability & cost of child care
. Perceived racial discrimination by vocational educators or counselors
. Perceived age discrimination by vocational educators or counselors
. Perceived sex discrimination by vocational educators or counselors
. Availability of English as a second language training
. Availability of bilingual vocational training

*These means are derived by summing responses for all groups by labor market area, then summing across labor market areas to get the regional total score and dividing by the total number of ratings. Because some respondents did not rate all items for all groups, the number of ratings varies over the 19 items.

FIGURE 3.15

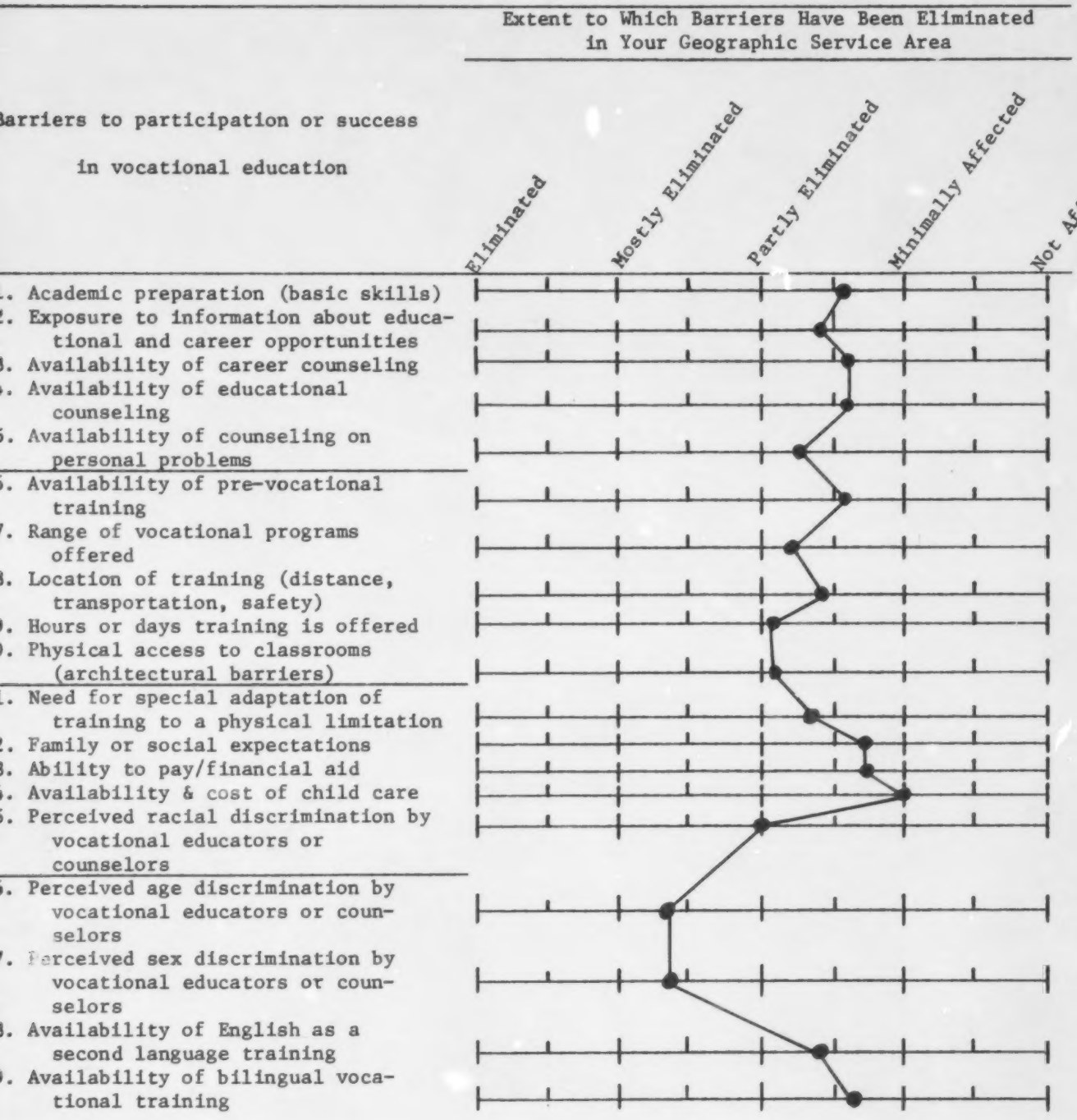
MEAN RATINGS OF ELIMINATION OF BARRIERS FOR REGION III
(Maximum Ratings Per Item: 16*)


Extent to Which Barriers Have Been Eliminated in Your Geographic Service Area
Barriers to participation or success in vocational education
Eliminated
Mostly Eliminated
Partly Eliminated
Minimally Affected
Not Affected
. Academic preparation (basic skills)
. Exposure to information about educational and career opportunities
. Availability of career counseling
. Availability of educational counseling
. Availability of counseling on personal problems
. Availability of pre-vocational training
. Range of vocational programs offered
. Location of training (distance, transportation, safety)
. Hours or days training is offered
. Physical access to classrooms (architectural barriers)
. Need for special adaptation of training to a physical limitation
. Family or social expectations
. Ability to pay/financial aid
. Availability & cost of child care
. Perceived racial discrimination by vocational educators or counselors
. Perceived age discrimination by vocational educators or counselors
. Perceived sex discrimination by vocational educators or counselors
. Availability of English as a second language training
. Availability of bilingual vocational training

*These means are derived by summing responses for all groups by labor market area, then summing across labor market areas to get the regional total score and dividing by the total number of ratings. Because some respondents did not rate all items for all groups, the number of ratings varies over the 19 items.

FIGURE 3.16

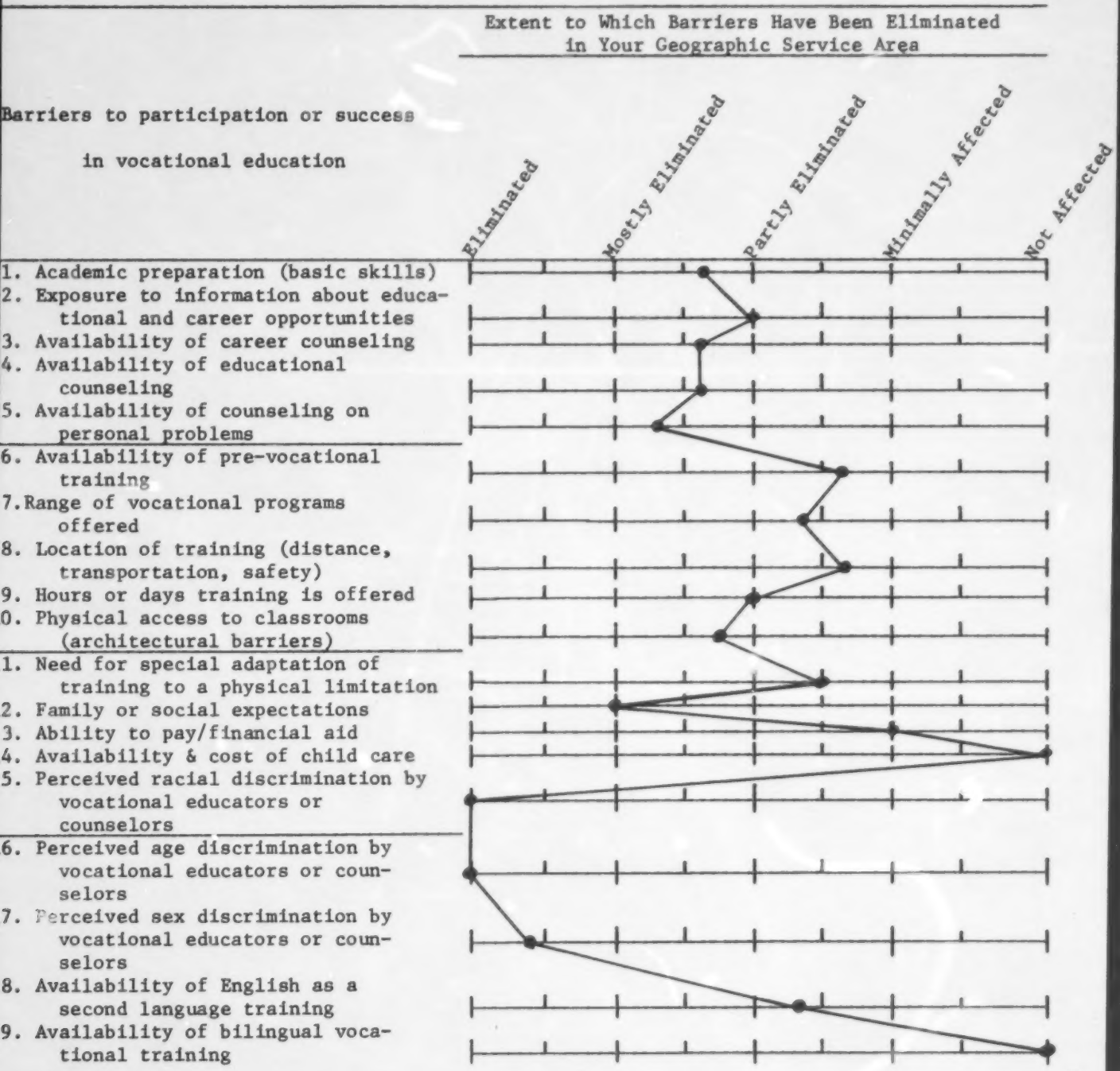
MEAN RATINGS OF ELIMINATION OF BARRIERS FOR REGION IV
(Maximum Ratings Per Item: 25*)


Extent to Which Barriers Have Been Eliminated in Your Geographic Service Area
Barriers to participation or success in vocational education
Eliminated
Mostly Eliminated
Partly Eliminated
Minimally Affected
Not Affected
. Academic preparation (basic skills)
. Exposure to information about educational and career opportunities
. Availability of career counseling
. Availability of educational counseling
. Availability of counseling on personal problems
. Availability of pre-vocational training
. Range of vocational programs offered
. Location of training (distance, transportation, safety)
. Hours or days training is offered
. Physical access to classrooms (architectural barriers)
. Need for special adaptation of training to a physical limitation
. Family or social expectations
. Ability to pay/financial aid
. Availability & cost of child care
. Perceived racial discrimination by vocational educators or counselors
. Perceived age discrimination by vocational educators or counselors
. Perceived sex discrimination by vocational educators or counselors
. Availability of English as a second language training
. Availability of bilingual vocational training

*These means are derived by summing responses for all groups by labor market area, then summing across labor market areas to get the regional total score and dividing by the total number of ratings. Because some respondents did not rate all items for all groups, the number of ratings varies over the 19 items.

FIGURE 3.17

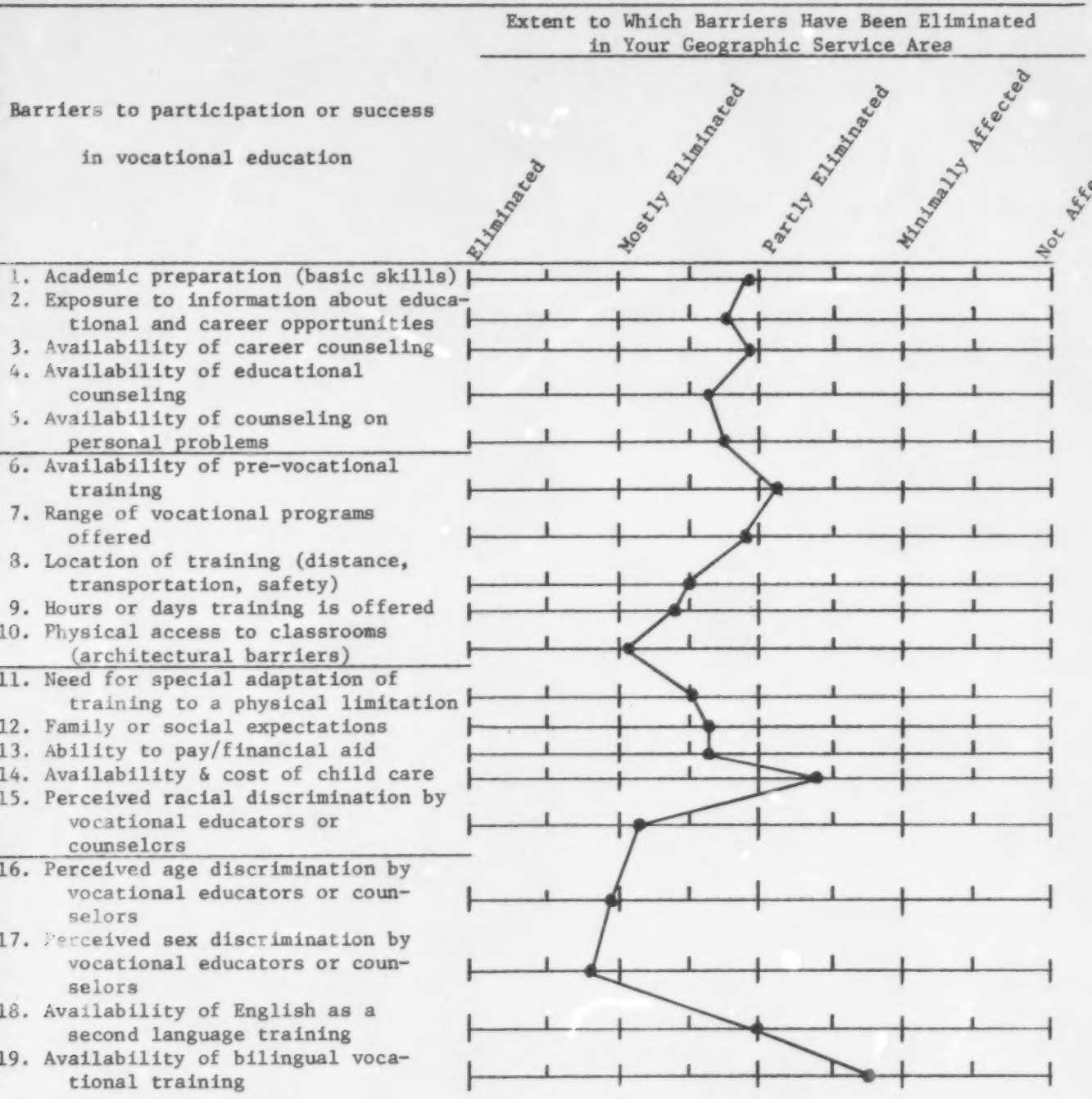
MEAN RATINGS OF ELIMINATION OF BARRIERS FOR REGION V
(Maximum Ratings Per Item: 3*)


Extent to Which Barriers Have Been Eliminated in Your Geographic Service Area
Barriers to participation or success in vocational education
Eliminated
Mostly Eliminated
Partly Eliminated
Minimally Affected
Not Affected
1. Academic preparation (basic skills)
2. Exposure to information about educational and career opportunities
3. Availability of career counseling
4. Availability of educational counseling
5. Availability of counseling on personal problems
6. Availability of pre-vocational training
7. Range of vocational programs offered
8. Location of training (distance, transportation, safety)
9. Hours or days training is offered
0. Physical access to classrooms (architectural barriers)
1. Need for special adaptation of training to a physical limitation
2. Family or social expectations
3. Ability to pay/financial aid
4. Availability & cost of child care
5. Perceived racial discrimination by vocational educators or counselors
6. Perceived age discrimination by vocational educators or counselors
7. Perceived sex discrimination by vocational educators or counselors
8. Availability of English as a second language training
9. Availability of bilingual vocational training

*These means are derived by summing responses for all groups by labor market area, then summing across labor market areas to get the regional total score and dividing by the total number of ratings. Because some respondents did not rate all items for all groups, the number of ratings varies over the 19 items.

FIGURE 3.18

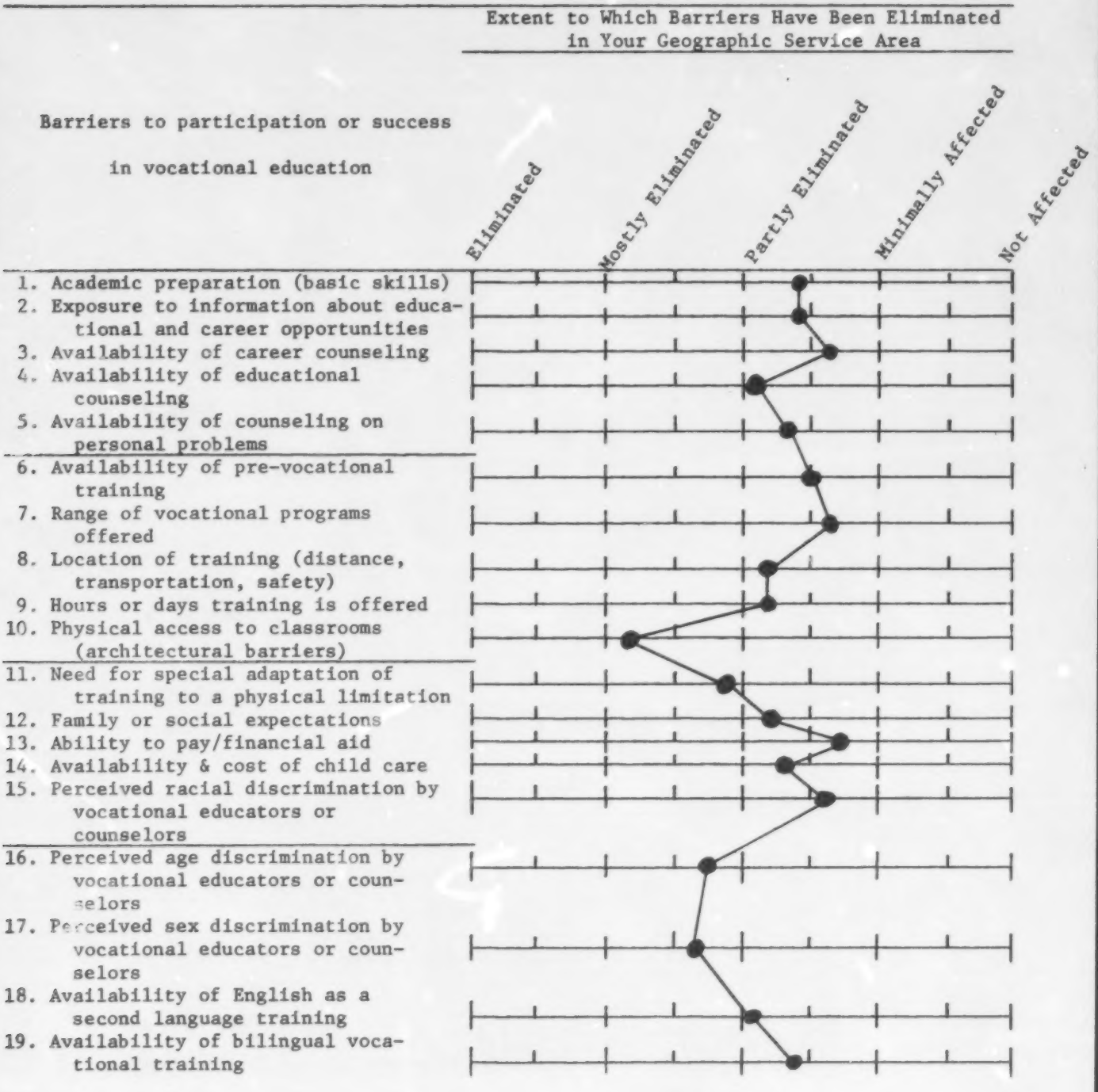
MEAN RATINGS OF ELIMINATION OF BARRIERS FOR REGION VI
Maximum Ratings Per Item: 37*)


Extent to Which Barriers Have Been Eliminated in Your Geographic Service Area
Barriers to participation or success in vocational education
Eliminated
Mostly Eliminated
Partly Eliminated
Minimally Affected
Not Affected
1. Academic preparation (basic skills)
2. Exposure to information about educational and career opportunities
3. Availability of career counseling
4. Availability of educational counseling
5. Availability of counseling on personal problems
6. Availability of pre-vocational training
7. Range of vocational programs offered
8. Location of training (distance, transportation, safety)
9. Hours or days training is offered
10. Physical access to classrooms (architectural barriers)
11. Need for special adaptation of training to a physical limitation
12. Family or social expectations
13. Ability to pay/financial aid
14. Availability & cost of child care
15. Perceived racial discrimination by vocational educators or counselors
16. Perceived age discrimination by vocational educators or counselors
17. Perceived sex discrimination by vocational educators or counselors
18. Availability of English as a second language training
19. Availability of bilingual vocational training

*These means are derived by summing responses for all groups by labor market area, then summing across labor market areas to get the regional total score and dividing by the total number of ratings. Because some respondents did not rate all items for all groups, the number of ratings varies over the 19 items.

FIGURE 3.19

MEAN RATINGS OF ELIMINATION OF BARRIERS FOR STATEWIDE CLIENT GROUPS
(Maximum Ratings Per Item: 17*)


Extent to Which Barriers Have Been Eliminated in Your Geographic Service Area
Barriers to participation or success in vocational education
Eliminated
Mostly Eliminated
Partly Eliminated
Minimally Affected
Not Affected
1. Academic preparation (basic skills)
2. Exposure to information about educational and career opportunities
3. Availability of career counseling
4. Availability of educational counseling
5. Availability of counseling on personal problems
6. Availability of pre-vocational training
7. Range of vocational programs offered
8. Location of training (distance, transportation, safety)
9. Hours or days training is offered
10. Physical access to classrooms (architectural barriers)
11. Need for special adaptation of training to a physical limitation
12. Family or social expectations
13. Ability to pay/financial aid
14. Availability & cost of child care
15. Perceived racial discrimination by vocational educators or counselors
16. Perceived age discrimination by vocational educators or counselors
17. Perceived sex discrimination by vocational educators or counselors
18. Availability of English as a second language training
19. Availability of bilingual vocational training

*These means are derived by summing responses for all groups by labor market area, then summing across labor market areas to get the regional total score and dividing by the total number of ratings. Because some respondents did not rate all items for all groups, the number of ratings varies over the 19 items.

CHAPTER IV

CONCLUSIONS AND RECOMMENDATIONS

A. Adult Vocational Program Needs

Synthesis of the findings detailed in Chapter III leads to the following conclusions and recommendations related to vocational programming.

The shifting population and employment opportunities in Connecticut require that vocational programs for adults be made available in additional locations, especially the Danbury area, the New London area, and the Danielson-Willimantic area. Because adults most often require part-time, short-term training close to family or work, programs are needed in these areas and not miles away, where schools and colleges are located. Also, these areas have specific occupational needs, and adults require a direct link between training and employment close to home.

Recommendation 1. Additional training should be provided in secondary schools, workplaces, and other convenient locations within the Danbury, New London, and Danielson-Willimantic areas; such training should be mostly short-term, part-time, and in response to specific hiring plans of local employers.

The aging population in Connecticut over the next ten years will relieve some of the serious employment problems of out-of-school youth while increasing the demand for training of older adults, especially to maintain their competitive edge in a tightening job market. The same large cohort (the "baby boom") which was responsible for, and suffered from, the youth employment pressures of the last decade is moving into their 20's and 30's. By 1985, the number of 15 to 19 year olds will have retreated to pre-1970 levels. Placing further demands on adult vocational training, adult women are reentering the work force in significant numbers.

Recommendation 2. The limited resources for adult vocational education should be gradually shifted from youth training projects to the training of adults over the age of 21, following the projected decrease in youth employment problems.

Behind many of the State's employment problems is the basic skills deficit of many adults in the State (one-third have no high school diploma). Without these skills, it is difficult and expensive to teach adults vocational skills, and their job mobility and promotion potential will be limited. Local educational agencies are responsible under State law for providing this education, but it is important that the Regional Vocational Technical Schools, State Technical Colleges, and community colleges that provide vocational education not relinquish responsibility for adults with vocational goals who have no diploma.

Recommendation 3. Priority should be given to the proposed objective for the 1981 Revision to the Master Plan for Vocational, Career and Adult Education, directing "The Division of Vocational and Adult Education and local educational agencies to assume '...primary responsibility for providing a basic education to individuals who do not have a high school diploma or equivalent, and provision of funding in proportion to the need'," as originally recommended by the Education Planning Committee in 1980.

Recommendation 4. The Division of Vocational and Adult Education should foster and promote efforts to coordinate adult basic education, GED classes, and vocational training in public institutions, so that adults may make progress toward their vocational goals while enrolled in other education classes.

Planning must be done at the local level for vocational programs to meet local employment needs and fill out the range of occupations which can be learned by local residents. There are some gaps and overlaps with Statewide importance. These affect the State's economic future. The State needs adequately trained office personnel to support the relocation of corporate headquarters in the western part of the State. It also needs skilled and semi-skilled workers for the metal manufacturing industries which are so important to the State. These training programs must be closely linked to the local labor market conditions and the special requirements of major employers. Also, in the western part

of the State, and to some extent elsewhere, training is needed in new high-technology fields.

Recommendation 5. Secretarial and clerical training curricula (for pre-employment and upgrading programs) should be reviewed with representatives of employers in all parts of the State to insure that all desired skills and attitudes are being taught and to update them with regard to technological advances.

Recommendation 6. Program models should be developed and tested for using industrial and office facilities during off-hours for keeping vocational educators and students aware of the rapidly changing technology in many occupations.

Recommendation 7. The industry-sponsored training program should be expanded for training and upgrading of high-technology technicians and metalworking occupations.

B. Special Needs of Individuals

One barrier which affects men and women both, in virtually all categories of adults, is the shortage of day care openings. For adults with children, this is a serious problem, as it becomes very difficult for them to attend classes with makeshift arrangements for their children. There are State-level actions which can be taken to increase the day care supply (e.g., revisions in regulations which discourage family day care homes or small centers without improving quality), only one of which is directly within the purview of the Division of Vocational and Adult Education: additional vocational preparation of child care workers.

Recommendation 8. Implement the proposed Master Plan objective calling for cooperation of the State Board of Education with "the Department of Labor, the Office of Policy and Management, the Department of Human Resources, the Department of Income Maintenance and the Board of Higher Education to promote and coordinate supportive services such as child care and transportation in connection with a variety of vocational and employment training programs."

Minority groups, economically disadvantaged adults, women, and the handicapped share a lack of knowledge about employment and educational opportunities which prevents them from properly and fully utilizing the available, vocational programs in the State.

Recommendation 9. Design and implement a campaign to inform potential students from underrepresented racial, ethnic, gender, socioeconomic, and handicapped groups about the availability of State-supported training, using media and formats which will reach specific target populations.

Recommendation 10. Continue the implementation of the COICC computerized Career Information Delivery System in settings which can benefit those who are most affected by occupational stereotyping (e.g., displaced homemaker programs, community based organizations in minority communities, YMCA/YWCA's).

Recommendation 11. Develop, identify, and disseminate models of pre-vocational training for students not traditionally represented in particular vocational programs, to facilitate their entry into such programs on an equal footing with traditional students.

With the increasing Hispanic population in the State, as well as refugees settling here, vocational training must be linked to language training to succeed.

Recommendation 12. Promote the provision of English-as-a-second-language courses by local educational agencies and identify model programs linking such training to vocational or pre-vocational training.

Recommendation 13. Provide bilingual vocational programs in areas where persons of limited English proficiency are concentrated.

The cost of participation in vocational education is a constraint for those who may need it most -- the underemployed, displaced homemakers, the economically disadvantaged. For such persons, full-time enrollment may be impossible without subsidies from CETA or other programs. Part-time training is also important for upgrading the skills of the employed adult to advance in his or her field.

Recommendation 14. Offer vocational training in short, self-contained instructional units scheduled so that participants can hold a job while they attend, and provide assistance in obtaining temporary employment for adult students.

Numerous other recommendations could be made for facilitating the participation of individual students, such as projects with the Veterans Administration to relate military occupational training to civilian courses and to support readjustment counseling for students who are veterans. Such

recommendations are made or implied in Section G of Chapter III, and are of less far-reaching importance than the fourteen listed above.

C. Data Availability and Further Research

Associated Educational Consultants tapped many different data sources in the preparation of this report. This data included three U.S. censuses, population projections by the Office of Policy and Management, statistics provided by the Division of Vocational and Adult Education on vocational program enrollments, statistical data provided by other state agencies, labor supply and demand projections, produced by the Department of Labor, numerous reports from the Information and Research Division of the Labor Department, data from the National Center for Education Statistics, and numerous reports prepared by Federal, State, and Local agencies, community groups and business organizations. Additional data was obtained from individuals representing a variety of groups through the six regional focus group meetings and the survey regarding Barriers to Participation. Much of the information that we sought was available and was provided to us on request by the agencies which had prepared the relevant reports.

Some data that we would have liked to have had was not available to us for various reasons. Key among this data is the results of the 1980 Census. The first figures from the Census were made available to us at the very end of our study period, and rapidly analyzed for inclusion in this report. However, much of the data which was obtained on a sample basis during the 1980 Census would be of great value to adult vocational education planners in the State. This data will not be available until late summer, at the earliest. A 1979 survey of vocational education participants done by Westat

for the National Center for Education Statistics was not available to us only because the final reports had not yet been prepared. This data, as soon as it becomes available, should be of use to people in the State. It deals with reasons why students participate in, and/or leave vocational education programs and provides data for students of all ages. In our report we relied on the 1976 Survey of Income and education by the U.S. Census Bureau. This survey is done every five years, and the 1981 data which will be available within a year perhaps, will provide much more current estimates of some of the important trends in the state including labor force participation by women.

Other data which we could not obtain has not been collected yet by any agency nor do we know of any plans to collect it at this point in time. Especially important among this data would be information from employers on the specific educational requirements for new employees. While we have some data on employment projections, there is not much available which speaks to the expectations of employers for the specific skills which employees will bring to jobs. Such research should be done for specific occupational categories skilled, trade and secretarial and clerical positions, which are both highly needed in the State. Other data which would be best collected locally includes surveys of adults in the community regarding both their interest in and desire for vocational education, the extent to which information on careers and educational opportunities is available to them and known by them and their preferences for the format, time, location, and subject of vocational programs in the area. A model for this could be the Needs Assessment done recently by Mohegan Community College. Finally, more research is needed in the field of Adult Education in general. This is a national level effort, but more needs to be known about how adults learn and how that learning can best be facilitated.

D. Self-evaluation

For the most part, this project cannot be evaluated at this time. The product of the project, this report and the accompanying report on Model Programs for adult Vocational Education must be evaluated in terms of (1) their perceived utility for those responsible for planning vocational programs for adults and (2) by their impact on the actions of those persons. An evaluation of that first aspect will be conducted following the presentation of this report to the Project Task Force. The second portion of the evaluation, the follow-up of the impact of the report, must be undertaken at a later date by the State Department of Education.

Internally, we can only evaluate the process used to obtain the data presented in the report and to generate the conclusions and recommendations made herein. Although there were some delays in the implementation of the project plan as outlined in the proposal, all of the major milestones in that project were met in a revised schedule. All of the tasks included in that report were completed, all of the sources listed and more for collecting data were contacted. The six regional Focus group meetings were held as planned and the survey was done with minor chages following the recommendations of the Task Force.

CHAPTER V

PROJECT DESIGN

A. Study Methodology

1. Compilation and Analysis of Existing Data

A major portion of the study resources was devoted to collecting available information relating to adult vocational education needs. These materials were collected over a ten-month period, beginning with a review of the literature indexed in ERIC (Resources in Education and Current Index to Journals of Education). Published and unpublished reports, articles, statistical compilations, and memos were gathered from Task Force members and others in the Labor Department and the State Department of Education. These items dealt with economic and employment conditions, unemployment, labor force participation, educational demand, supply, and needs, ancillary services, population trends, and special needs groups. Each was reviewed for its potential usefulness to the definition of needs and searched for references to other sources. Through mail and telephone communications, these additional sources were obtained and themselves reviewed for more resources. Various branches of the U. S. Departments of Education and Labor were also contacted, and the public library in Hartford was visited for additional references. The most recent and complete references were employed for this report.

2. Regional Focus Group Meetings

During November and December of 1980, focus group meetings were held in six locations around the State. These one-day meetings brought together

vocational educators, representatives of organizations serving groups with special vocational problems, Employment Security Office and CETA counselors, and a few employers to discuss adult vocational education needs. Approximately 300 persons were invited to attend. Participants were asked to address themselves to employment prospects in their regions, the availability and success of local vocational education for adults, the barriers faced by various groups, and the needs of the adult population for career information, exploratory programs, job skills, and support services. Attendance at the meetings was about ten to thirty persons each. Although many attended hoping to receive a report of needs in the State, a substantial amount of input was provided by the participants in each region. Their impressions, anecdotes, and local interpretation of State-level statistics were most useful in using the statistical sources appropriately.

3. Survey to Define Barriers to Participation

One area in which little hard data on Connecticut could be found was barriers encountered by women, minorities, the handicapped, and other groups. A mailed survey was designed and implemented to obtain more data on those barriers. Those surveyed included counselors and evening school supervisors in all regional vocational-technical schools, counselors in all community colleges and state technical colleges, directors of adult education in local school districts, all Veterans Administration and Employment Security offices in the State, several CETA programs, and 180 programs (selected for geographic coverage) providing vocational services and/or advocacy for adults with special needs. The groups represented by these programs include women, veterans, Hispanics, Blacks, drug and

alcohol abusers, youth, ex-convicts, refugees, the mentally and physically handicapped, and others. A total of 283 programs were surveyed; 105 returned usable responses after two mailings (see Table 5.1). The response rate of 37% was approximately the same in each region of the State. Each respondent was asked to rate 19 barriers for their effects on special populations served by the program. (See Appendix C for instrument.) Respondents rated barriers for one, two, or three different special populations. A total of 146 sets of ratings were received.

4. Search for Innovative and Model Programs

To serve as a stimulus to improvement in adult vocational programs, a separate volume was prepared describing 11 programs from around the country which have been particularly successful in dealing with adults in basic skills aspects of vocational education. These programs were identified through a literature search and personal contacts. Descriptions of the programs and their successes were developed from publications, supplemented by telephone and mail contact with program personnel. The booklet describing the model programs has been reproduced for dissemination to vocational educators throughout Connecticut.

5. The Task Force as a Vehicle for Implementation

The multi-agency study Task Force was created both to provide guidance to the study and to establish a mechanism whereby the study findings can be translated into action at the policy and program levels. The Task Force met three times during the study, and their suggestions and references were given careful consideration. Now the responsibility for use of the study falls to those Task Force members.

TABLE 5.1

SURVEY RESPONSE RATES

Mailing Address/ Type of Organization	NUMBER (PERCENT) OF SURVEYS: Mailed Out	Returned, Usable	Returned, Addressee Unknown	Not Returned/ Unusable Response
TOTAL	283 (100.0)	105 (37.1)	4 (1.4)	174 (61.5)
Region I	34 (100.0)	13 (38.2)	1 (2.9)	20 (58.8)
Region II	55 (100.0)	18 (32.7)	0 (0.0)	37 (67.3)
Region III	43 (100.0)	19 (44.2)	1 (2.3)	23 (53.5)
Region IV	98 (100.0)	34 (34.7)	2 (2.0)	62 (63.3)
Region V	16 (100.0)	7 (43.8)	0 (0.0)	9 (56.3)
Region VI	37 (100.0)	14 (37.8)	0 (0.0)	23 (62.2)
Community College	12 (100.0)	6 (50.0)	0 (0.0)	6 (50.0)
State Technical College	5 (100.0)	5 (100.0)	0 (0.0)	0 (0.0)
Regional Voc-Tech School	37 (100.0)	10 (27.0)	0 (0.0)	27 (73.0)
LEA Adult Education	22 (100.0	8 (36.4)	0 (0.0)	14 (63.6)
Veterans Administration Office	8 (100.0)	1 (12.5)	0 (0.0)	7 (87.5)
Employment Security Office	19 (100.0)	8 (42.1)	0 (0.0)	11 (57.9)
Voc. Services/ Advocacy Organizations	180 (100.0)	67 (37.2)	4 (2.2)	109 (60.6)

APPENDIX A

CONNECTICUT
TASK FORCE

Ms. Barbara Lownds
Bureau of Vocational Program
Planning & Development
Division of Vocational Education
P. O. Box 2219
Hartford, Connecticut 06115

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Board of Higher Education
340 Capitol Avenue
Hartford, Connecticut 06115

Mr. Gary King
Executive Director
COICC
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55 Elizabeth Street
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Ms. Olive Sheehan
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C.E.T.A.
State Labor Department
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Walter Kostrzewa
Regional Community Colleges
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Mr. Charles Salerno
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Division of Vocational Education
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Mr. Joseph Corcoran
Bureau of Vocational Services
Division of Vocational Education
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Youth Employment & Training
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Jane Alonso
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Division of Administrative Services
State Department of Education
P. O. Box 2219
Hartford, Connecticut 06115

Dr. Valerie Pichanick
Bureau of Vocational Program
Planning and Development
Division of Vocational Education
P O. Box 2219
Hartford, Connecticut 06115

MEMORANDUM

TO: Task Force Members
FROM: Dan K. Jacobs, Associated Educational Consultants, Inc.
SUBJECT: Task Force Meeting, June 16, 1980
DATE: June 20, 1980

The first meeting of the Task Force for the study, "Research Study to Assess Individual and Vocational Program Needs for Adult Education" was held on Monday, June 16, 1980 at 1:30 p.m. Those in attendance were:

Velma Adams
Jane Alonso
Marilyn Campbell
Gary Cooley
Joseph Corcoran
Gary King
Walter Kostrzewa
Barbara Lownds
David Pascucci
Valerie Pichanick
Ann Ricci
Charles Salerno
Elizabeth Schmitt
Dan K. Jacobs, AEC
Patricia Newbold, AEC
Marti Kersten, AEC

Elizabeth Schmitt, Chief, Bureau of Vocational Planning and Development, opened the meeting by introducing Associate Commissioner/Director Division of Vocational Education, Clem Green, who welcomed the Task Force members.

Ms. Schmitt briefly discussed the direction education is taking in Connecticut and the background that led to the issuance of the Request for Proposal for the above-mentioned study.

Valerie Pichanick, Consultant Bureau of Vocational Program Planning and Development for the Division of Vocational Education, introduced the staff from Associated Educational Consultants, Inc. (AEC) and distributed a listing of the names and addresses of the Task Force members. The Task Force members introduced themselves before the meeting was turned over to Dr. Dan K. Jacobs of AEC.

Dr. Jacobs presented a brief history on the firm of Associated Educational Consultants, Inc., and distributed an abstract as well as a significant portion of the firm's proposal to conduct the study, "Research Study to Assess Individual and Vocational Program Needs for Adult Education." The AEC staff reviewed the major aspects of the proposal, highlighting the areas which could be enhanced by the expertise of the Task Force.

It was suggested that in AEC's search for compiling existing data, the six Private Industry Councils in Connecticut should be added to the list of possible sources.

Dr. Jacobs questioned the possibility of changing the proposed schedule for the focus group meetings from December, 1980 to November, 1980. It was agreed that this might be a more convenient time since schools would be closed for Thanksgiving thereby making it more feasible to use school facilities for housing the focus group meetings.

Valerie Pichanick noted that the Vocational Education Guide is currently being updated and would be available sometime this fall, thus providing AEC with current information.

Elizabeth Schmitt commented that every agency represented on the Task Force could benefit from the study, and therefore Task Force members should feel free to surface their comments or suggestions.

A comment was raised that while ERIC is a valuable source for identifying model programs, there may be some specifically operating Connecticut programs that will not appear. These programs should be solicited from the focus groups.

To the question as to how much of the final report would be a plan and how much would be a recommended process for what to do, Dr. Jacobs referred to Objectives 3, 4 & 6 on page 5 of the proposal which read as follows:

> Objective 3 - To provide examples of programs and innovative ideas which could realistically be used by vocational educators in the State of Connecticut to strengthen the basic skills aspect of employment training for adults, in a format which can be widely used by educators and administrators.
>
> Objective 4 - To identify and recommend realistic strategies to eliminate barriers that limit the access of adults to vocational programs in Connecticut.
>
> Objective 6 - To provide recommendations for improvements in the provision of adult vocational education, including the elimination of barriers to participation.

Elizabeth Schmitt added that AEC is charged with gathering any and all data sources to access where Connecticut is now and provide professional judgement in recommending strategies which the State office will factor into the State Plan and master plan.

A concern was expressed that without first-hand knowledge of the State of Connecticut, how would AEC know if their secondary sources would be useful or valid. Valerie Pichanick replied that the Task Force and focus group meetings would be sources of knowledge to the consultants.

It was indicated that there may be some problems relative to the status of data in Connecticut such as availability and validity. It was suggested that AEC stay in touch with the Task Force between now and the next meeting.

Patricia Newbold added that AEC will present whatever data they can obtain and attach any qualifications AEC has been warned of.

Dr. Jacobs emphasized that communications between AEC and the Task Force should be open and he encouraged the Task Force to call AEC's Pittsburgh office (collect) or to mail any information that might be helpful. He added that if the Task Force will bring to light their concerns, AEC will try to accommodate them.

Dr. Jacobs asked the Task Force to recommend documents they were knowledgeable of and felt would be of value in conducting the study. Various documents were mentioned and the Task Force offered to submit to AEC those they could obtain, highlighting those segments that were significant.

Elizabeth Schmitt pointed out that AEC is to focus on entry-level job training and employability skills. She also mentioned that the Task Force will have the opportunity to review AEC's findings before the final report is printed.

A concern was voiced that Connecticut has many community-based organizations that should be included in the survey.

Dr. Jacobs questioned where the best place might be to hold the focus group meetings. It was suggested that high schools, college campuses or business and industry facilities could be utilized.

In discussing the focus group meetings, Dr. Jacobs expressed his desire to conduct all day meetings--presenting the findings to the entire group, then dividing the group into smaller groups for discussion purposes, and then reassembling into one group to exchange ideas and viewpoints. It was pointed out that the structure of the meetings would be important to their success.

The meeting adjourned at 4 p.m.

PLEASE NOTE - Associated Educational Consultants, Inc. values your expertise and greatly appreciates your participation in this study. We recognize that frequently the time constraints of a meeting inhibit the opportunity to thoroughly consider the various sources of information available to you, that may be relevant to this study. We would greatly appreciate it if you would forward any materials that you deem worthy to our Pittsburgh office.

Also, any concerns or suggestions you wish to bring to our attention will be welcomed. Your advice and guidance throughout the progress of this project is essential.

MEMORANDUM

TO: Task Force Members
FROM: Dan K. Jacobs, Associated Educational Consultants, Inc.
SUBJECT: Task Force Meeting, December 9, 1980
DATE: January 6, 1981

The second meeting of the Task Force for the study, " Research Study to Access Individual and Vocational Program Needs for Adult Education" was held on Tuesday, December 9, 1980 at 3:30 p.m. Those in attendance were:

Velma Adams	Charles Salerno
Walter Kostrzewa	Elizabeth Schmitt
Barbara Lownds	Dan K. Jacobs, AEC
Valerie Pichanick	John G. Drugo, AEC

Dr. Jacobs opened the meeting by presenting the Agenda which focused on the following four (4) items:

1. Update of the Regional Focus Group Meeting
2. December 1, 1980 Letter
3. Additional Information to the Project
4. Survey

Dr. Jacobs noted that the format had been changed for the Hartford, Willimantic and New London Focus Group Meetings. Specifically, the questionnaire which was shared with the Task Force was constructed in order to gather the comments of the participants and to lessen the reliance on note-taking by the AEC staff. It was reported that this method seemed to work well during the Hartford meeting and that some interesting information had been elicited.

Reference was then made to the information sent to the Task Force in the letter dated December 1, 1980. A request was made by Dr. Jacobs that members make their comments on the draft copies and forward them to AEC.

The meeting then moved to specific comments regarding information that was not presented in the first Focus Group Meeting and also about documents that should be used in the data collection effort. It was noted that more data needed to be collected concerning Local Educational Agencies and proprietary schools.

A great deal of discussion then focused on the Hanson Report and other information related to this effort that would be available through Jane Alonzo. A recommendation was also made that Eric Ott be contacted.

Discussion also focused on the need to collect more regional data from the Bureau of Labor Statistics and also in relation to CETA Programs. Some other documents mentioned were the statewide counseling guide, the Skills Development Program, the report concerning Continuing Education Programs in Connecticut, and information available from the Connecticut Business and Industry Association. Ann Wingate was mentioned as a contact for this organization.

The Task Force members were in agreement that the project should continue with its pre-designed plan to collect and analyze as much 1980 Census data as available and to be aware of such things as narrower age categories if available. It was mentioned that the Office of Policies Management could be of assistance in providing this data and that Judy Sloic could assist in these efforts.

Finally, the Task Force suggested that AEC rethink the need for the survey effort that was originally planned and that perhaps some other method of data collection focusing on more indepth information from a smaller group including industrial representatives be substituted. After some discussion concerning this matter, the meeting was adjourned.

APPENDIX B

REGIONAL FOCUS GROUP MEETING

The focus groups met in six locations across the State to discuss regional and state employment opportunities, vocational training and barriers to adult participation in training.

Torrington, Danbury and Waterbury labor markets,
November 18, 1980 - Bridgewater

New Haven, Ansonia and Meriden labor markets,
November 19, 1980 - New Haven

Stamford, Norwalk and Bridgeport labor markets,
November 20, 1980 - Norwalk

Hartford, Bristol and New Britain labor markets,
December 9, 1980 - Hartford

Danielson and Willimantic labor markets,
December 10, 1980 - Willimantic

Norwich, New London and Middletown labor markets,
December 11, 1980 - East Lyme

Attached are the meeting agenda and a form for soliciting information from participants.

REGIONAL FOCUS GROUP MEETING

AGENDA

9:30 - 9:40	Welcome and Introduction
9:40 - 10:40	Presentation of supply and demand data and analysis of gaps .State level data .Regional level data
10:40 - 11:45	Small group discussions (by labor market) .Local/regional gaps and oversupply .Local trends and development plans affecting labor demand and availability of training .Local/regional opportunities for meeting training needs
11:45 - 12:00	Reports from Labor Market discussion groups and response
12:00 - 1:00	Lunch (on your own)
1:00 - 1:45	Presentation - barriers to adult participation in vocational education and the labor force .Geographic accessibility (location of training) in region .Barriers facing special groups: Employed adults Displaced homemakers Unemployed youth (16 - 24 years) Minority groups Limited English-speaking Physically handicapped adults Mentally handicapped adults Women Veterans Other
1:45 - 2:15	Small group discussions (educators, employers, supportive services) .Elaboration of barriers .What this group can do to eliminate barriers
2:15 - 2:30	Reports by small groups and response
2:30 - 2:45	Presentation - innovative models for adult vocational education
2:45 - 2:55	Response to presentation
2:55 - 3:00	Wrap-up and evaluation of meeting

Name_____
Agency_____
Address_____
_____
Labor Market_____
Date_____

Supply and Demand

A. Local/regional gaps and oversupply.

1. _____
_____

2. _____
_____

3. _____
_____

B. Local trends and development plans affecting labor demand and availability of training.

1. _____
_____

2. _____
_____

3. _____
_____

C. Most effective way(s) in which the State Department's Division of Vocational Education could be helpful in assisting our adult population (relating to availability and successfulness of local vocational education for adults).

1. _____
_____

2. _____
_____

3. _____
_____

Barriers to Adult Participation in Vocational Education & Labor Force

A. Geographic accessibility to vocational programs.

1. _____

_____

2. _____

_____

B. Barriers facing special groups:

1. Employed adults
2. Displaced homemakers
3. Unemployed youth (16-24 years)
4. Minority groups
5. Limited English-speaking
6. Physically handicapped adults
7. Mentally handicapped adults
8. Women
9. Veterans
10. Other

What can be done to eliminate barriers?

1. _____

_____

2. _____

_____

3. _____

_____

4. _____

_____

5. _____

_____

6. _____

_____

7. _____

_____

8. _____

_____

9. _____

_____

10. _____

_____

C. Needs of the adult population for:

1. Career information _____

_____

2. Exploratory programs _____

_____

3. Job skills _____

_____

4. Support services _____

_____

Innovative Models for Adult Vocational Education

NAME OF PROJECT	PROJECT OFFICERS	ADDRESS
1.		
2.		
3.		

Additional Comments

APPENDIX C

Associated Educational Consultants, Inc.

North Allegheny Office and Research Park
McKnight and Pine Creek Roads P.O. Box 15073
Pittsburgh, Pennsylvania 15237

Phones 412 931-2244
412 935-5580

CES RENDERED

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Assessments
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onal Program
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District Policy
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March 16, 1981

Dear Survey Recipient:

Associated Educational Consultants is conducting an assessment of the vocational needs of adults in the State of Connecticut for the State Department of Education, Division of Vocational and Adult Education.

The questionnaire should not take more than 10 to 15 minutes to complete. Page one asks for some very basic information on your agency or organization, to be used in our assessment of the services now available to special needs groups. Page two (three copies provided) asks for your judgments on both the severity of and the success of eliminating any barriers to participation in vocational education by groups of adults with special needs. The last page solicits your ideas on how to eliminate barriers. Most of the questionnaire can be completed quickly by checking or circling answers.

Please complete and return the questionnaire to us by March 30th, using the enclosed envelope. The findings of this very important survey will be helpful in providing adult education programming in Connecticut. Your responses will be used for research purposes only and will be held in strict confidence by our staff. If you have any questions, please call me collect at (412) 935-5580 or 931-2244. We are waiting anxiously for your response.

Sincerely,

ASSOCIATED EDUCATIONAL CONSULTANTS, INC.

Dan K. Jacobs, Ed.D.
Vice President

DKJ/bs

Enclosures

BARRIERS TO VOCATIONAL EDUCATION OF ADULTS

1. Your name: _____

2. Your title: _____

3. Your organization: _____

4. Address: _____

_____

5. Which of the following services are provided to adults by your organization? (Check all that apply)

- ☐ basic academic skills
- ☐ career exploration programs
- ☐ counseling - career
- ☐ counseling - educational
- ☐ counseling - other
- ☐ day care
- ☐ job seeking/employment skills
- ☐ vocational training
- ☐ other: _____
- ☐ English as a second language
- ☐ financial aid for vocational education
- ☐ legislative advocacy
- ☐ supportive services for students (e.g., translators, textbook recording, liaison with school)
- ☐ transportation to training

6. What area of the state is served by your organization? (Check all that apply)

- ☐ entire state
- ☐ Ansonia area
- ☐ Bridgeport area
- ☐ Bristol area
- ☐ Danbury area
- ☐ Danielson area
- ☐ Hartford area
- ☐ Meriden area
- ☐ Middletown area
- ☐ New Britain area
- ☐ New Haven area
- ☐ New London area
- ☐ Norwalk area
- ☐ Norwich area
- ☐ Stamford area
- ☐ Torrington area
- ☐ Waterbury area
- ☐ Willimantic area
- ☐ other: _____

7. Use the characteristics below to describe the primary group(s) of <u>adults</u> your organization or agency serves and/or represents (e.g., economically disadvantaged blacks) and the approximate number of such adults served annually.

- blacks
- displaced homemakers
- economically disadvantaged
- elderly
- emotionally/socially handicapped
- hispanics
- limited English proficient
- mentally handicapped
- minorities other than black and hispanic
- rural residents
- physically handicapped
- veterans
- women
- youth (young adults)
- other (specify)

This organization serves primarily:

_____ No. per year: _____

_____ No. per year: _____

_____ No. per year: _____

Page two asks for information on the group you serve. If you serve more than one group, use the additional copies of page two.

Enter name of group here ——————→ _____

Circle ratings of barriers (below)

Add and rate any additional barriers

riers to participation or success vocational education	Rate the barriers for this group, considering number affected and impact on the individual					Rate the extent to which barriers have been eliminated in your geographic service area				
	No constraint	Minor	Moderate	Severe	Very Severe	Eliminated	Mostly eliminated	Partly eliminated	Minimally eliminated	Not affected
Academic preparation (basic skills)	1	2	3	4	5	A	B	C	D	E
Exposure to information about educational and career opportunities	1	2	3	4	5	A	B	C	D	E
Availability of career counseling	1	2	3	4	5	A	B	C	D	E
Availability of educational counseling	1	2	3	4	5	A	B	C	D	E
Availability of counseling on personal problems	1	2	3	4	5	A	B	C	D	E
Availability of pre-vocational training	1	2	3	4	5	A	B	C	D	E
Range of vocational programs offered	1	2	3	4	5	A	B	C	D	E
Location of training (distance, transportation, safety)	1	2	3	4	5	A	B	C	D	E
Hours or days training is offered	1	2	3	4	5	A	B	C	D	E
Physical access to classrooms (architectural barriers)	1	2	3	4	5	A	B	C	D	E
Need for special adaptation of training to a physical limitation	1	2	3	4	5	A	B	C	D	E
Family or social expectations	1	2	3	4	5	A	B	C	D	E
Ability to pay/financial aid	1	2	3	4	5	A	B	C	D	E
Availability & cost of child care	1	2	3	4	5	A	B	C	D	E
Perceived racial discrimination by vocational educators or counselors	1	2	3	4	5	A	B	C	D	E
Perceived age discrimination by vocational educators or counselors	1	2	3	4	5	A	B	C	D	E
Perceived sex discrimination by vocational educators or counselors	1	2	3	4	5	A	B	C	D	E
Availability of English as a second language training	1	2	3	4	5	A	B	C	D	E
Availability of bilingual vocational training	1	2	3	4	5	A	B	C	D	E
Other:										
_____	1	2	3	4	5	A	B	C	D	E
_____	1	2	3	4	5	A	B	C	D	E
_____	1	2	3	4	5	A	B	C	D	E

DON'T FORGET THE LAST PAGE!

. Enter name of group here ——————→

. Circle ratings of barriers (below)

. Add and rate any additional barriers

arriers to participation or success n vocational education	Rate the barriers for this group, considering number affected and impact on the individual					Rate the extent to which barriers have been eliminated in your geographic service area				
	No constraint	Minor	Moderate	Severe	Very Severe	Eliminated	Mostly eliminated	Partly eliminated	Minimally affected	Not affected
. Academic preparation (basic skills)	1	2	3	4	5	A	B	C	D	E
. Exposure to information about educational and career opportunities	1	2	3	4	5	A	B	C	D	E
. Availability of career counseling	1	2	3	4	5	A	B	C	D	E
Availability of educational counseling	1	2	3	4	5	A	B	C	D	E
. Availability of counseling on personal problems	1	2	3	4	5	A	B	C	D	E
. Availability of pre-vocational training	1	2	3	4	5	A	B	C	D	E
. Range of vocational programs offered	1	2	3	4	5	A	B	C	D	E
. Location of training (distance, transportation, safety)	1	2	3	4	5	A	B	C	D	E
. Hours or days training is offered	1	2	3	4	5	A	B	C	D	E
. Physical access to classrooms (architectural barriers)	1	2	3	4	5	A	B	C	D	E
. Need for special adaptation of training to a physical limitation	1	2	3	4	5	A	B	C	D	E
. Family or social expectations	1	2	3	4	5	A	B	C	D	E
. Ability to pay/financial aid	1	2	3	4	5	A	B	C	D	E
. Availability & cost of child care	1	2	3	4	5	A	B	C	D	E
Perceived racial discrimination by vocational educators or counselors	1	2	3	4	5	A	B	C	D	E
Perceived age discrimination by vocational educators or counselors	1	2	3	4	5	A	B	C	D	E
Perceived sex discrimination by vocational educators or counselors	1	2	3	4	5	A	B	C	D	E
Availability of English as a second language training	1	2	3	4	5	A	B	C	D	E
Availability of bilingual vocational training	1	2	3	4	5	A	B	C	D	E
Other:										
_____	1	2	3	4	5	A	B	C	D	E
_____	1	2	3	4	5	A	B	C	D	E
_____	1	2	3	4	5	A	B	C	D	E

DON'T FORGET THE LAST PAGE!

Enter name of group here ——————————→ _____

Circle ratings of barriers (below)

Add and rate any additional barriers

riers to participation or success vocational education	Rate the barriers for this group, considering number affected and impact on the individual					Rate the extent to which barriers have been eliminated in your geographic service area				
	No constraint	Minor	Moderate	Severe	Very Severe	Eliminated	Mostly eliminated	Partly eliminated	Minimally affected	Not affected
cademic preparation (basic skills)	1	2	3	4	5	A	B	C	D	E
xposure to information about educational and career opportunities	1	2	3	4	5	A	B	C	D	E
vailability of career counseling	1	2	3	4	5	A	B	C	D	E
vailability of educational counseling	1	2	3	4	5	A	B	C	D	E
vailability of counseling on personal problems	1	2	3	4	5	A	B	C	D	E
vailability of pre-vocational training	1	2	3	4	5	A	B	C	D	E
ange of vocational programs offered	1	2	3	4	5	A	B	C	D	E
ocation of training (distance, transportation, safety)	1	2	3	4	5	A	B	C	D	E
ours or days training is offered	1	2	3	4	5	A	B	C	D	E
hysical access to classrooms (architectural barriers)	1	2	3	4	5	A	B	C	D	E
eed for special adaptation of training to a physical limitation	1	2	3	4	5	A	B	C	D	E
amily or social expectations	1	2	3	4	5	A	B	C	D	E
bility to pay/financial aid	1	2	3	4	5	A	B	C	D	E
vailability & cost of child care	1	2	3	4	5	A	B	C	D	E
erceived racial discrimination by vocational educators or counselors	1	2	3	4	5	A	B	C	D	E
erceived age discrimination by vocational educators or counselors	1	2	3	4	5	A	B	C	D	E
erceived sex discrimination by cational educators or counselors	1	2	3	4	5	A	B	C	D	E
vailability of English as a second language training	1	2	3	4	5	A	B	C	D	E
vailability of bilingual vocational training	1	2	3	4	5	A	B	C	D	E
ther: _____	1	2	3	4	5	A	B	C	D	E
_____	1	2	3	4	5	A	B	C	D	E
_____	1	2	3	4	5	A	B	C	D	E

DON'T FORGET THE LAST PAGE!

May we have your recommendations for eliminating any of the "severe" or "very severe" barriers you identified on the previous pages? Identify the group and barrier for each strategy you recommend.

(attach extra pages if necessary)

Are you aware of any successful efforts to overcome the barriers to vocational education for adults?

WHERE	WHAT

Thank you very much for participating in this survey. Your confidential responses will be aggregated with those from others serving the same populations and reported, in the aggregate only, to the State Department of Education, Division of Vocational and Adult Education.

Please return your completed survey in the enclosed envelope and send to:

Associated Educational Consultants, Inc.
North Allegheny Office and Research Park
McKnight and Pine Creek Roads P. O. Box 15073
Pittsburgh, Pennsylvania 15237

APPENDIX D

PROJECT PERSONNEL

Dan K. Jacobs, Ed.D., Project Director

Judith Dallas
John G. Drugo
Susan Fisher
Marti Kersetn
Joan Lipiec
Diane McCartney
Alice E. McKenna
Patricia L. Newbold